BLM LIBRARY
88045602

.S. Department of the Interior
Bureau of Land Management

Vale District Office
P.O. Box 700
Vale, Oregon 97918

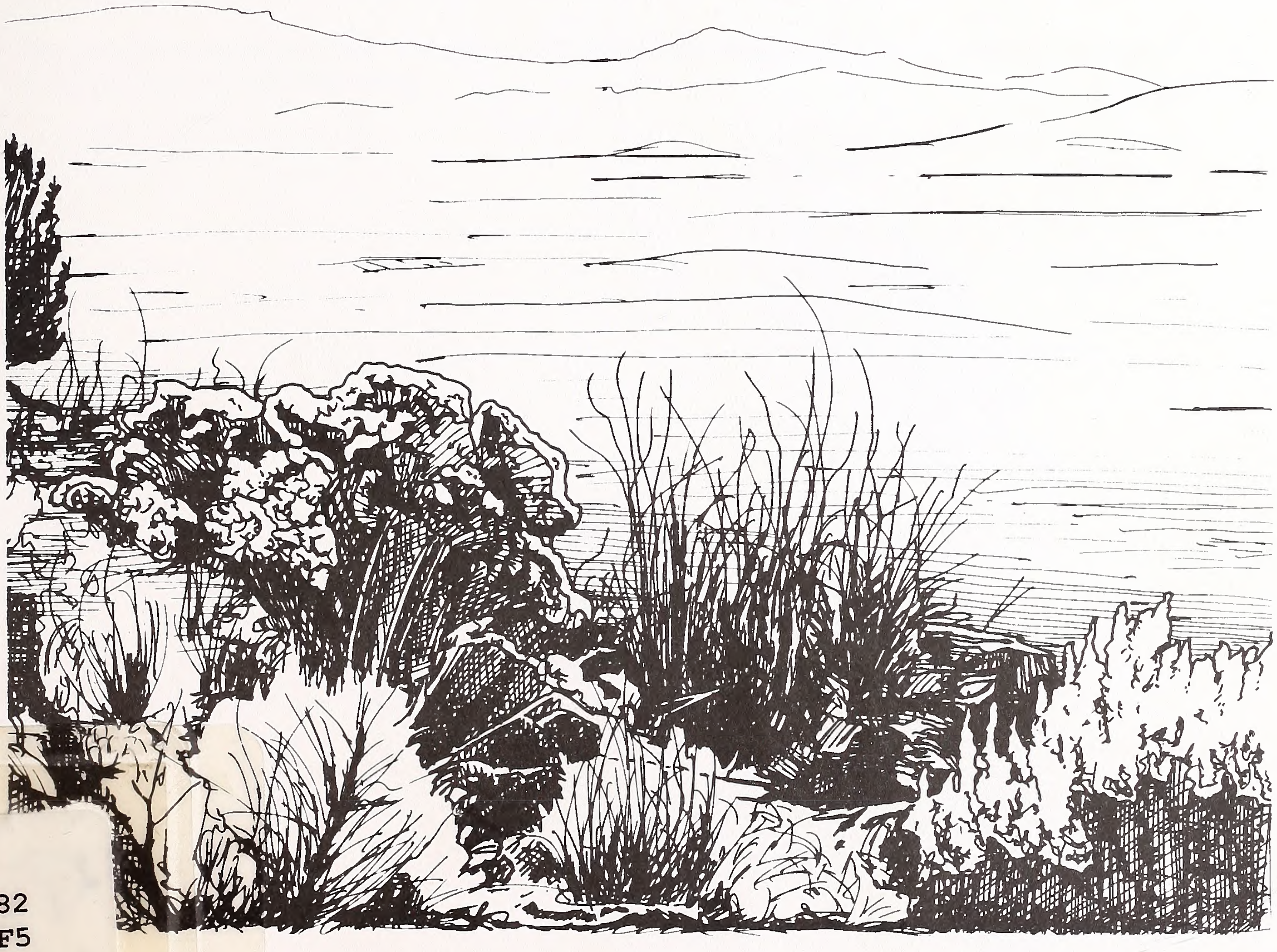
Baker Resource Area Office
1550 Dewey Avenue
Baker, Oregon 97814

Final

December 1988

Proposed National Historic Oregon Trail Interpretive Center at Flagstaff Hill

Decision Record and Environmental Assessment



F
882
.F5
B343
1988
c.2

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. The Department also has a major resonsibility for American Indian reservation communities for people who live in Island Territories under U.S. administration.

BLM LIBRARY
RS 150A BLDG. 50
DENVER FEDERAL CENTER
P.O. BOX 25047
DENVER, CO 80225

BLM–OR–PT–88–16–1791

88045602

F
882
.F5
B343
1988
c.2

United States Department of the Interior
Bureau of Land Management

Baker Resource Area
P.O. Box 987 (1550 Dewey Avenue)
Baker, Oregon 97814

December 23, 1988

Dear Concerned Citizen:

Enclosed for your review are the Decision Record and final Environmental Assessment (EA) for the proposed National Historic Oregon Trail Interpretive Center at Flagstaff Hill. The ROD identifies the alternative selected to develop the proposed project. The final EA describes the probable impacts that could result from implementation of the four alternatives considered.

The analysis provided here has been refined and updated as a result of public comment and internal review of the draft EA. Thirty-five letters were received during the comment period. All letters are available for review in the Baker Resource Area office.

If you would like further information about the environmental analysis process, beyond that presented in this publication, please contact the District Planning Coordinator at (503) 473-3144.

We appreciate public participation in the environmental analysis process, and encourage your continued interest in the management of public lands.

Sincerely,

William C. Calkins

William C. Calkins
District Manager, Vale District

BLM LIBRARY
RS 150A BLDG. 50
DENVER FEDERAL CENTER
P.O. BOX 25047
DENVER, CO 80225

March 3, 1849

U.S. Department of the Interior
Bureau of Land Management
Baker Resource Area Office
December 1988

Proposed National Historic Oregon Trail Interpretive Center at Flagstaff Hill

Decision Record and Environmental Assessment

Record of Decision

Finding of No Significant Impact (FONSI)

The Bureau of Land Management, Vale District, has analyzed various alternatives for developing a National Historic Oregon Trail Interpretive Center at Flagstaff Hill in the Baker Resource Area. The alternatives and associated analyses are described in the attached environmental assessment made available for public review on August 30, 1988. This environmental assessment is hereby incorporated by reference and attached. The options for management direction identified in the attached EA would assure that no significant impacts would occur to the human environment.

Under the four alternatives analyzed, significant impacts on the quality of the human environment would not occur based on the following considerations.

1) Analysis indicated no significant impacts on society as a whole, the affected region, the affected interests, or the locality.

2) Public health or safety would not be significantly affected.

3) Federally owned segments of the Oregon Trail and its setting would be retained in Federal ownership under all alternatives and protected and enhanced to various degrees depending upon the alternative.

4) Overall protection for cultural resources eligible for the National Register of Historic Places would be provided.

5) The alternatives would not significantly affect endangered or threatened species, or the habitat determined to be critical to any of those species, as provided for in the Endangered Species Act of 1973.

6) The alternatives do not violate federal, state, and local law requirements imposed for environmental protection. There are no known inconsistencies with officially approved or adopted federal, state or local natural resource-related plans, policies, or programs.

7) Adverse impacts identified are minimal. Continued resource monitoring would ensure that no significant adverse impacts occur. As needed, appropriate management would be instituted to protect important natural and cultural resource values.

FONSI Determination

On the basis of the information contained in this environmental assessment and all other information available to me as summarized above, it is my determination that none of the four alternatives constitute a major federal action significantly affecting the quality of the human environment (a finding of no significant action). Therefore, an environmental impact statement is unnecessary and will not be prepared. In addition, the proposed action is in conformance with the Baker Resource Management Plan, which is being prepared for approval in early 1989. Selection and implementation of the proposed action would not require a land use plan amendment.

Decision Record

My decision is to accept the proposed action (Alternative 3) as identified in the attached final Environmental Assessment for the proposed National Historic Oregon Trail Interpretive Center at Flagstaff Hill. The mitigating measures known as project design features are accepted as they apply to the proposed action.

Decision Rationale

Four alternatives for the development of the proposed National Historic Oregon Trail Interpretive Center were analyzed in the final Environmental Assessment. Based on the analysis, the proposed action provides for a quality interpretive facility and the greatest public safety, while emphasizing protection of the Oregon Trail and its historic setting.

The proposed action is in conformance with the Baker Resource Management Plan which is being prepared for approval in early 1989.

Jack D. Albright

Area Manager, Baker Resource Area

Proposed National Historic Oregon Trail Interpretive Center at Flagstaff Hill

Draft ( ) Final (X) Environmental Assessment
U.S. Department of the Interior Bureau of Land Management

1. Type of Action: Administrative (X) Legislative ( )

2. Abstract. The enclosed environmental assessment is specifically designed to explore the environmental impacts of a project described in an August, 1987 document prepared by Baker County, Oregon. The plan, entitled, " National Historic Oregon Trail Proposed Flagstaff Hill National Monument Preliminary Site Plan," details the county's proposal for a full-scale Oregon Trail interpretive complex on public lands administered by the BLM. The BLM is preparing the assessment in response to a letter of request from the Governor of the State of Oregon to the Secretary of the Interior. The letter specifically requested that the BLM "conduct an environmental assessment study preliminary to construction of the interpretive center" (see Appendix A). The Director of the BLM, responding on behalf of the Secretary of the Interior, committed BLM support to do the assessment (see Appendix A).

The proposed project includes almost 508 acres; about 450 acres are public lands administered by the Bureau of Land Management in the Baker Resource Area of the Vale District. Significant historic properties on public lands include about one mile of visible Oregon Trail ruts, a segment of the Auburn-Burnt River wagon road and remains of the historic Flagstaff Mine. A BLM Bicentennial Wayside offers limited interpretation of the Oregon Trail. The Wayside is visited by 6,000 to 8,000 travelers annually. The project area also includes 60 acres where the surface is privately owned but the subsurface is federal mineral estate. The site encompasses about 305 acres with moderate to high potential for locatable gold and silver. Approximately 313 acres of the project area is currently encumbered with mining claims. The project area includes a maximum of 450 acres of grazing pasture within BLM grazing allotment #2078.

This environmental assessment identifies and analyzes four alternatives for interpreting the National Oregon Historic Trail at Flagstaff Hill in Baker County, Oregon, and examines probable environmental impacts of each alternative on historic, recreation, natural and visual resources. It also addresses economic impacts on the local area, and safety issues as they relate to public health and federal liability.

3. The four alternatives analyzed are:

- Alternative 1. Continue existing management (no action);
- Alternative 2. Construct a full-scale interpretive center;
- Alternative 3. The same as Alternative 2, with specific design features that reduce environmental impacts;
- Alternative 4. The same as Alternative 3, but no withdrawal from mineral entry.

4. For further information contact:

Gerry Meyer
Bureau of Land Management
Baker Resource Area
1550 Dewey Avenue
Baker, Oregon 97814
Telephone (503) 523-6391

Table of Contents

Chapter 1 Introduction 1
Background 2
Summary of Proposed Project 3
Criteria for Site Selection 3
Location and Site Description 3
Need for the Proposal 6
Summary of EA Process 6
Conformance With Existing Land Use Management Plans 6
Legal and Regulatory Guidelines 6
Issues 7
Summary of Alternatives 8
Other Considerations 8

Chapter 2 Description of Alternatives 11
Rationale for the Selection of the Proposed Action 12
Alternatives 12
Alternative 1: No Action—Continue Present Management Plans 12
Alternative 2: Construct Full-Scale Interpretive Center 15
Alternative 3: Proposed Action—Same as Alternative 2, With Design Features to Preserve and Protect Resources 19
Alternative 4: Same as Alternative 3—but No Withdrawal from Mineral Entry under the Mining Law Would Be Initiated 24
Alternatives Considered but Rejected 25

Chapter 3 Affected Environment 27
Climate 28
Historic Resources 28
Recreation Resources 29
Wildlife 31
Soil and Watershed 31
Vegetation 31
Livestock Grazing 31
Geology and Mineral Resources 31
Social and Economic Setting 34

Chapter 4 Summary of Environmental Impacts 37
Introduction 38
Mineral Resource Development Scenarios 38
Assumptions for Analysis of Alternatives 38
Additional Assumptions for Analysis of Alternatives 1, 2, and 3 38
Additional Assumptions for Analysis of Alternative 4 39
Impacts to Historic Resources 39
Impacts to Recreation Resources 43
Impacts to Visitor Safety 44
Impacts to Wildlife 45
Impacts to Soil and Watershed 45
Impacts to Vegetation 46
Impacts to Livestock Grazing 46
Impacts to Mineral Resources 46
Impacts to Social and Economic Setting 47
Summary of Impacts 50

Chapter 5 Coordination and Distribution 55
Public Involvement 56
Response to Written Comments 56
List of Agencies, Organizations, and Officials to Whom Copies of the EA Are Sent 58

Chapter 6 List of Preparers, References, Glossary 61
List of Preparers 62
References 63
Glossary of Terms 64

Appendices 69
A Documents Requesting EA 70
B Preliminary Appropriation for Project 74
C National Register of Historic Places: Criteria for Evaluation 76
D Withdrawal Review Criteria: Summary 78
E Interpretive Themes 80
F Threatened and Endangered Species Clearance 81
G Summary of Geology and Mineralization in Northeastern Oregon 82
H Mineral Development Scenario for the Flagstaff Hill Mine 83

List of Maps

1. Location 4
2. Vicinity 5
3. Alternative 1 Site 13
4. Alternative 1 Proposed Mineral Withdrawal 14
5. Alternative 2 Site 17
6. Alternative 2 Proposed Mineral Withdrawal 18
7. Alternative 3 Site 21
8. Alternative 3 Proposed Mineral Withdrawal 22
9. Visual Resources – Class III 23
10. Flagstaff Hill Mineral Resource Potential 33

List of Tables

1. Summary of Initial One-Time Costs by Alternative 24
2. Summary of Recurring Annual Costs by Alternative 25
3. Baker County Employment Summary, 1987 35

Chapter 1 Introduction

Background

Historic Perspective

For almost eighty years the story of America's westward expansion was written along a 2,000 mile stretch of wilderness known as the Oregon Trail. From 1812 to 1890 a steady flow of explorers, missionaries, soldiers, trappers, miners, farmers and cattlemen traveled the emigrant road seeking their fortunes on the nation's western frontier.

A few miles west of the Snake River, in what is now eastern Oregon, the pioneer travelers passed by a rocky bluff - now called Flagstaff Hill - and into the Powder River Valley below. The segment of the Trail adjacent to Flagstaff Hill was a memorable breakpoint for the emigrants. There they passed from the harsh, arid canyons of the Snake and Burnt rivers to the fertile, green valleys of Oregon.

Today the Flagstaff Hill area remains a dramatic representation of the experiences of those early travelers. The segment of the Oregon Trail at Flagstaff is very much as it was in the era of overland emigration. The setting evokes much the same feeling experienced by tens of thousands of nineteenth-century pioneers. It is a remarkable vista--the lush Powder Valley bounded on the west by the heavily forested Blue Mountains. Seven miles of the Oregon National Historic Trail visible from the Hill are eligible for nomination to the National Register of Historic Places (see Appendix C).

The proposal for a full-scale Oregon Trail interpretive center at Flagstaff Hill flows from a long history of Oregon Trail observance and interpretation in Baker County, Oregon. These activities date from the formation of the Baker County Pioneer Association in 1893.

In 1906 Ezra Meeker was the first to mark the Trail in this area. As interest in the Trail continued to mount, residents of Baker helped found the Oregon Trail Association in the 1920s. Walter Meacham of Baker served as president of this national organization. In 1943, the Baker Kiwanis Club constructed a 20 foot obelisk with bronze medallion commemorating emigrant travel through the divide at the base of Flagstaff Hill. National interest in the Oregon Trail surfaced again in the early 1970s when the Bureau of Outdoor Recreation (an agency of the Interior Department) contacted the National Park Service about mounting a study of the Oregon Trail, including its route through Baker County, Oregon. In 1972 Aubrey L. Haines carried out this project and identified a number of sites associated with the Trail and its use in the nineteenth century.

In 1976, the BLM opened the Flagstaff Hill Oregon Trail Bicentennial Wayside, one of several Oregon Trail waysides that responded to the Federal Land Policy and Management Act (as amended). The Act charged the Interior Department to manage public lands for multiple uses and to protect scientific, historical, environmental, and archaeological values. That same year, the Oregon Department of Transportation erected the Baker Valley Kiosk, one of 14 Oregon Trail interpretive sites at roadside rest areas along Interstate 84. The Kiosk, located nine miles northwest of Flagstaff Hill, included illustrated text panels and supporting printed materials which addressed both the emigrant experience in the Baker Valley and the full route of the Trail across Oregon.

In 1978, the National Trail System Act (as amended) designated the Oregon Trail as a National Historic Trail, identifying it for preservation, public use and enjoyment. In 1981, the National Park Service (NPS) launched a major study of the Oregon Trail and inventoried the features at Flagstaff Hill, among others along the historic route. In its Comprehensive Management and Use Plan, the NPS wrote:

> Flagstaff Hill. Mile 1,601. From the brow of Flagstaff Hill, the emigrants first saw the Blue Mountains. A long line of ruts ascend the hill. Mixed public and private ownership. Recommended responsibility: Bureau of Land Management in cooperation with private owners (National Park Service, 1981 [58]).

Recent Actions

In January, 1987, officials in the city and county of Baker, Oregon, met with local citizens to explore the future of Flagstaff Hill as an important national landmark. The group recognized the role of the Flagstaff Hill location in the Oregon Trail adventure and identified it as a valued historic and cultural resource--part of the nation's frontier heritage. Furthermore, the group learned that--from the Nebraska-Wyoming state line to the Pacific Coast--there is no national center devoted exclusively to a comprehensive educational and interpretive examination of the historic events of the Oregon Trail experience.

In February, 1987, Baker County officials commissioned a study that explored ways to tell the story of the Oregon Trail and preserve the historic route still visible near Flagstaff Hill. The study concluded that a major interpretive center was the logical means for achieving both goals. The county officials determined that the Flagstaff Hill site is an exceptional location for such a center for several reasons: it is historically significant; it is easily accessible to visitors; it offers an exceptional panorama-- little changed from pioneer days; and it is positioned overlooking a long, well-preserved stretch of the Oregon Trail.

In the spring of 1987, city and county planners asked Oregon state officials and the state's congressional representatives for help to create a federally supported interpretive center. City and county officials also sought informal advice and guidance from the BLM's Baker Resource Area Office on how the goals of preservation and education might be achieved.

In August, 1987, the county completed a preliminary planning document that proposed a full-scale interpretive center to be managed by the BLM, with facilities and displays that offer a comprehensive exposition of the Oregon Trail era in American history. The plan, entitled "National Historic Oregon Trail Proposed Flagstaff Hill National Monument Preliminary Site Plan," won the support of the Oregon congressional delegation in early 1988; the state of Oregon committed its support to the project in April, 1988. On August 10, 1988, a congressional house-senate conference committee approved a first year funding appropriation of $1.3 million for the project (see Appendix B). The funding is for the Bureau of Land Management to begin the project in fiscal year 1989.

Summary of Proposed Project

The county's plan describes an interpretive center large enough to address the broad history of the Trail, the pioneer culture and the settlement of the Northwest. The concept identified four major components for the complex:

1) An interpretive center portraying the dimensions of life on the Oregon Trail.

2) Two "living history" displays: one recreating a pioneer encampment, the second depicting a nineteenth-century mining operation.

3) A footpath system paralleling the Oregon Trail and offering visitors a panoramic view of the Trail route.

4) A series of four interpretive stations and a number of observation points along the foot path system to explain sights of interest.

Criteria for Site Selection

The criteria for site selection were defined by a broad based ad-hoc committee consisting of representatives of local, state, and federal agencies, Trail preservation experts, and private citizens. The committee chose the top of Flagstaff Hill because it best satisfied eight criteria determined to be significant for selecting a project site:

1) The site should be near a well-preserved segment of the Oregon National Historic Trail in Baker County.

2) The site should reflect the historic setting--both physical and visual--encountered by emigrants on the Trail.

3) The site should recreate, as much as possible, the experience of the Oregon Trail emigrants as they moved from the arid, hardship-ridden canyon passage into Oregon's first lush valley.

4) The site should offer opportunities to interpret pioneer mining activities associated with the Oregon Trail.

5) The site should offer visitors both a panoramic view of the Trail route and an inspiring vista of the varying landscapes of the intermontane American West.

6) The site should be located on lands already largely under federal ownership.

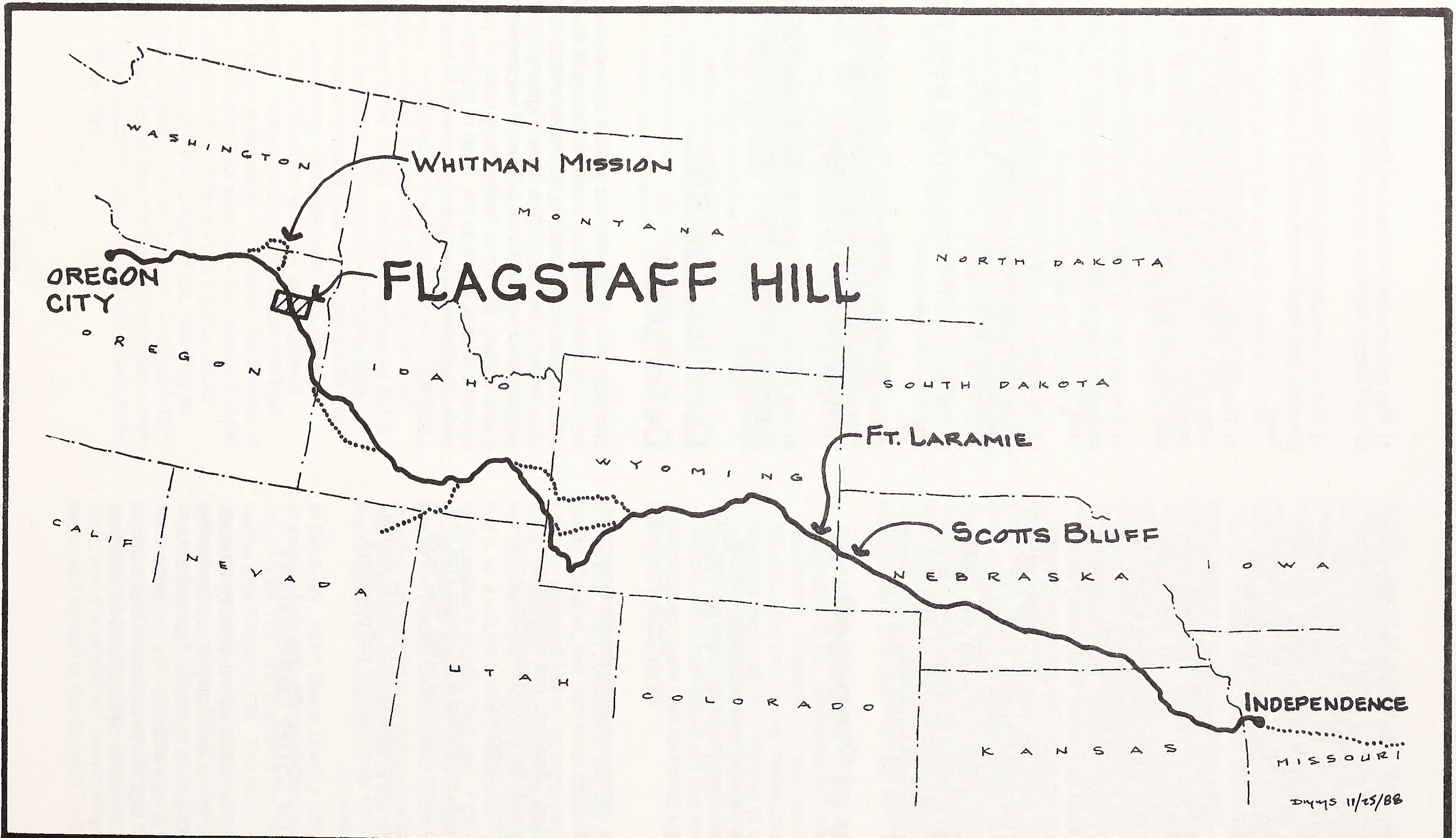
7) The site should be located to allow construction of slow-down and speed-up lanes on the state highway to provide safe access to the project.

8) The site should be located in such a way that the supporting sewage treatment facility would be hidden from the view of visitors.

Location and Site Description

The proposed location for the project is in northeastern Oregon, five miles northeast of the city of Baker, in Baker County. The site is four miles east of Interstate Highway 84, on Oregon State Highway 86. The suggested interpretive complex would encompass approximately 508 acres immediately north of, and accessible from, Highway 86. Most of the proposed site is public land administered by the BLM (see Maps 1 and 2).

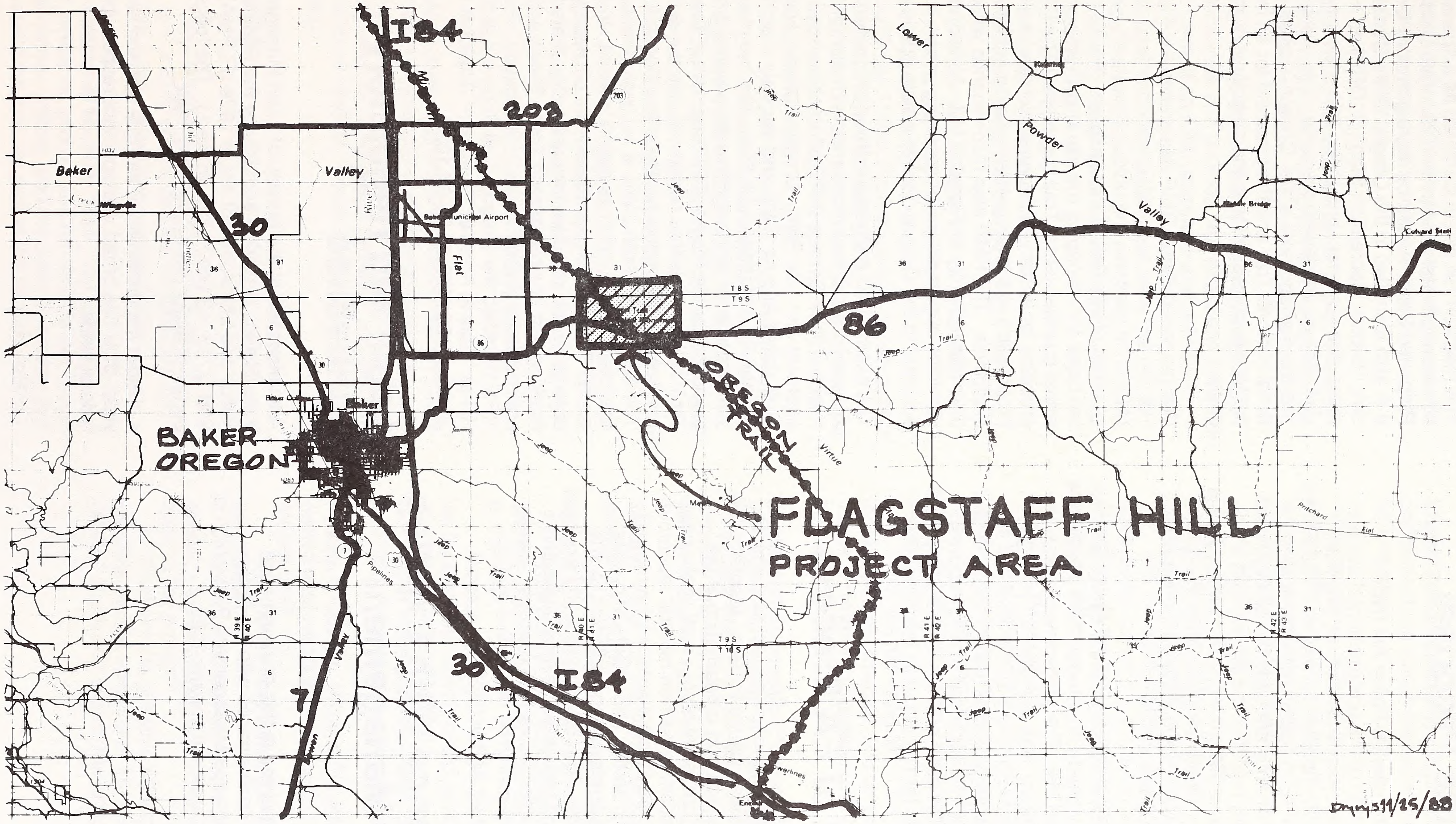
MAP 1



NATIONAL HISTORIC OREGON TRAIL INTERPRETIVE CENTER AT FLAGSTAFF HILL

LOCATION MAP

MAP 2



NATIONAL HISTORIC OREGON TRAIL INTERPRETIVE CENTER AT FLAGSTAFF HILL

VICINITY MAP

Need for the Proposal

The National Environmental Policy Act (NEPA) mandates preparation of the environmental assessment (EA), which assesses the natural, physical, economic and social impacts of a project. The EA will determine whether the proposal represents a major federal action significantly affecting the quality of the human environment requiring the preparation of an environmental impact statement (EIS). Secondly, the EA process offers citizens an opportunity to express their views and concerns about the environmental aspects of the proposed project.

The need for this EA is dictated by the efforts of Baker County, Oregon, to create an Oregon Trail interpretive complex at Flagstaff Hill. The project would preserve and protect the Oregon Trail and offer a thorough interpretation of the historic role of the Trail and its setting. The proposed project is the cornerstone of a Baker County economic recovery strategy approved and supported by the state of Oregon. The proposed project site consists largely of public lands administered by the BLM.

Summary of EA Process

This EA analyzes the proposed project as it affects identified issues. These issues include: identification, preservation, protection and rehabilitation of the historic properties; preservation of visual resources; quality of interpretation; impact on mineral resources development and mineral claimants; economic and social effects; public safety; and effects of private ownership of some lands on, and adjacent to, the proposed project site. The EA identifies and explores four alternatives and discusses several alternatives considered but rejected for various reasons. Finally, the EA identifies the preferred alternative and explains the rationale for its selection.

Conformance With Existing Land Use Management Plans

The alternatives analyzed in this environmental assessment are in conformance with the Baker Resource Area Resource Management Plan which is being prepared for approval in early 1989.

The Flagstaff Hill site is identified as a special recreation management area in the BLM Vale District's Proposed Baker Resource Management Plan (RMP). It is also identified in the Oregon State Comprehensive Outdoor Recreation Plan (SCORP) as a special recreation resource, and in the Baker County Land Use Plan as an historic resource. The designation and the management of the Oregon Trail as a National Historic Trail and the proposal for an interpretive center are consistent with the objectives of these plans.

The proposed Baker RMP designates the Flagstaff Hill site an "area of critical environmental concern" (ACEC) to preserve the unique historic and visual qualities of the Trail at that location. The RMP will be the basis for managing the site to protect cultural and visual qualities along Trail segments. The RMP provides for enhanced interpretation and it directs the preparation of a management plan to achieve these objectives. The RMP also recommends withdrawal from mineral entry at Flagstaff Hill. Additionally, it identifies opportunities for acquiring private lands adjacent to the Oregon Trail to create public access.

The alternatives analyzed in this environmental assessment are in conformance with elements of the National Park Service (NPS) Comprehensive Management and Use Plan: Oregon National Historic Trail, dated August 1981, and the Vale District Draft Oregon Trail Management Plan. Neither plan envisioned the level of interpretive development now proposed for the Flagstaff Hill segment of the Oregon Trail; however, neither plan precludes the development of an interpretive facility at the Flagstaff Hill site. The objective of both plans is management of this site to protect and interpret its historic values. In addition, the NPS specifically identified a set of management objectives and priorities for preserving, protecting, marking and interpreting the Trail. These activities apply directly to the Flagstaff Hill location. Finally, the NPS identified the Oregon Trail Segment at Flagstaff Hill as "Ruts in Need of Protection" (National Park Service, 1981 [78-82,92-94,102]).

Legal and Regulatory Guidelines

Administration of the Bureau of Land Management, Vale District, is guided primarily by the Federal Land Policy and Management Act of 1976 (FLPMA) (90 Stat. 2743; 43 USC 1701, et. seq.). The following are pertinent major provisions of FLPMA.

- Under the principles of multiple use and sustained yield, BLM has broad management responsibility over federal lands.

- Comprehensive land use planning will be accomplished in order to properly utilize the lands and the resources they contain.

- Management activities will strive to protect scientific, scenic, historical, ecological, environmental, air and atmosphere, water, and archaeological values.

In addition to this overall policy, the following state and federal laws and policies also direct and constrain management of specific resources and activities.

Mining Law of 1872 (as amended).
Antiquities Act of 1906.
Mineral Leasing Act of 1920 (as amended).
Taylor Grazing Act of 1934.
Historic Sites Act of 1935.
Mineral Material Sales Act, 1955.
National Historic Preservation Act of 1966 (as amended).
National Environmental Policy Act of 1969 (NEPA).
Mining and Minerals Policy Act of 1970.
Geothermal Steam Act of 1970.
Executive Order 11593, Protection and Enhancement of the Cultural Environment (1971).
Executive Order 11644, Use of Off-Road Vehicles on the Public Lands (1972).
Endangered Species Act of 1973.
Oregon Land Use Act of 1973.
National Trails System Act of 1978 (as amended).
Archaeological Resource Protection Act of 1979.
National Materials and Mineral Policy, Research and Development Act of 1980.
36 Code of Federal Regulations 60, National Register of Historic Places.
36 Code of Federal Regulations 800, Protection of Historic and Cultural Properties.
43 Code of Federal Regulations 3809, Surface Management under U.S. Mining Laws.
43 Code of Federal Regulations 8000, Recreation Programs.

The BLM is consulting with the Oregon State Historic Preservation Officer and the National Advisory Council on Historic Preservation. These consultations are undertaken to comply with Sections 106 and 110 of the National Historic Preservation Act of 1966 (as amended).

Issues

Seven major issues have emerged from project review by the BLM and other federal agencies, and from public input. The issues are as follows.

Oregon National Historic Trail. Will the project identify, preserve, protect and rehabilitate the Oregon Trail, its historic setting, and the cultural, natural and visual resources that are part of the historic setting?

Visual Resources. Will the project identify, preserve and protect the visual resources at and near the project site?

Interpretation. Will the project provide the public a high quality educational and interpretive opportunity that addresses the Oregon Trail and its importance as an element of the nation's frontier heritage.

- Two important elements of a worthwhile interpretive experience are the visual and landscape characteristics of the historical setting. Can both be integrated into the interpretive package?
- Will the interpretive experience have sufficient educational, cultural and recreational value to justify the effects of the project on the Oregon Trail and its historic setting.

Minerals Resources.

- What are the impacts on mineral resource exploration and development, and on the mineral claimants, of the following: Withdrawals from mineral entry under the mining laws? Development of an interpretive complex?
- What are the impacts on the interpretive and recreational experience, and on project improvements, if mineral exploration and possible mining operations continue?

Social and Economic Effects. What are the social and economic impacts of the proposed project? Can the project draw the estimated 200,000 visitors annually and will the local and regional communities derive economic benefit from the tourist volume?

Safety. What are the safety factors that affect the proposed project?

- Are changes in state highway access to the site needed to enhance traffic safety?
- What are the effects on traffic safety of spring and fall cattle drives along the state highway access to the site?
- What factors related to past and present mineral exploration and mining could affect the public safety and create federal liability?
- What is the potential effect of wildfire or structural fire on the public safety and federal liability?

Private Property. What is the effect of privately owned land within and adjacent to the proposed project site?

- Can private land within the site be acquired for the project?
- Can commercial development of private land adjacent to the site affect the interpretive and scenic merit of the project?
- What are the possible effects of the project on privately owned sections of the historic properties located south and east of the project site?

Summary of Alternatives

The environmental analysis generated four alternatives. Alternative 1 is a no-action alternative; it would continue current BLM site management actions as reflected in the current Baker Resource Area MFP, the proposed Baker RMP and the draft Vale District Oregon Trail Management Plan. Alternative 2, construction of a full-scale Historic Oregon Trail interpretive center, is the Baker County proposal as described in the county's Preliminary Site Plan. It features a visitor center and related activities to interpret all aspects of the Oregon Trail historic experience, and proposes withdrawal of 470 acres of federal mineral estate. Alternative 3, the preferred alternative, is modeled on the Baker County proposal and calls for withdrawal of 507.5 acres of federal mineral estate; it also presents design elements that enhance interpretation and mitigate effects of the project. Alternative 4 is the same as Alternative 3, but does not contain a proposal for withdrawing the federal mineral estate from mineral entry under the mining laws.

Other Considerations

Mineral Resources Management Policy

Alternatives 1, 2 and 3 propose withdrawals from mineral entry under the Mining Law of 1872, as amended. It is BLM policy that public lands shall remain open and available for mineral exploration and development unless withdrawal is clearly in the national interest. Criteria for evaluation of withdrawal proposals can be found in the BLM Manual, Section 2355 and are summarized in Appendix D.

Withdrawal from mineral entry does not necessarily preclude mining. If a claimant perfects "discovery" of a valuable mineral on a mining claim, the claimant has a statutory property right to the locatable mineral estate. A perfected "discovery" (valid discovery) means a mineral deposit has been located that is of such quality (grade) and size that a prudent person could invest further with a reasonable prospect of developing a paying mine. In other words, an ore body has been discovered which can be mined at a profit.

If, on the date of withdrawal from mineral entry, a claimant has a "valid discovery" on one or more mining claims then the claimant legally possesses "valid existing rights." These rights include the right to use whatever part of the surface is needed to develop the ore body and the right to purchase the public land under claim.

Viewshed and Historic Setting Protection

The area surrounding the proposed visitor center may be subject to land use changes potentially detrimental to the quality of the visitor experience and to the historic setting. Ideally, these lands should be protected from activities which would adversely affect their historic, visual and interpretive value.

These lands are both federally and privately owned. On the federally owned property, the Bureau would recommend expanding the area currently managed as a Class III visual resource. Visual resource management guidelines for this class require that proposed activities minimize adverse impact on the visual resource that falls within the viewshed boundaries established for the area.

The private lands within this viewshed are currently zoned for Exclusive Farm Use (EFU) in the Baker County Comprehensive Plan which allows for outright uses and accessory uses. These include: farming and harvesting forest products; dwellings and other buildings associated with farm use; exploration for geothermal resources; and solid waste disposal facilities.

Conditional uses may be permitted on private land in accordance with other zoning requirements. Permitted conditional uses may include: feedlots and major utility facilities; exploring, mining, and processing minerals; parks, campgrounds, personal-use airports and golf courses; single family residential dwellings; and the boarding of horses for profit. The criteria for evaluation of all conditional uses in the EFU zone include compatibility with the overall character of the area and that the use will not be injurious to property and improvements in the area of the request. However, zoning ordinances should specifically highlight the visitor center and clearly define county landscape features and viewshed boundaries to assure that the center's scenic resources and historic setting are protected over the long term.

Historic Oregon Trail Protection

The segment of the Oregon Trail crossing Virtue Flat, southeast of the project site, is located on private lands. The Trail ruts on public lands are protected by federal laws and regulations. The segments located on private lands are protected under Goal V of the county land use ordinance, which addresses the protection of "open space, scenic and historic areas, and natural resources." This ordinance concludes that "the county shall require the preservation of a resource when it is found to be in the public's best interest to do so." In addition, Section 412, Historic/ Cultural and Natural Area Protection Procedure, states that "a major alteration or destruction of a Natural Area shall first require an estimate of significant environmental effect analysis, justification, and plan amendment and that major exterior alteration shall, to the extent possible, be consistent with the historic/cultural character of the structure."

These ordinances offer significant protection of the Oregon Trail. However, additional measures could be added to improve the county's protection of the Trail ruts and to more precisely define boundaries of the protected zone. The current county historic resource inventory and ordinance describe the Trail as a linear feature; they do not address a zone or boundary of protection around the Trail, nor do they currently plan for historic easements or an Oregon Trail Land Trust, options available for furthering preservation of this nationally recognized cultural resource.

In addition, the private land owners, who own land adjacent to the Oregon Trail, could form an association. This association could provide opportunities for recognition, and perhaps, financial incentives for their efforts to preserve the original Oregon Trail ruts.

Project Management

The BLM will be the responsible agency for implementing the project and did not consider management by any other agency for several reasons. BLM has been directed by congress to study the proposal. The proposal is sited on BLM-administered public lands. The NPS Comprehensive Management and Use Plan for the Oregon Trail recommends that responsibility for managing the Flagstaff Hill segment of the Oregon National Historic Trail remain with the BLM.

Chapter 2 Description of Alternatives

Rationale for the Selection of the Proposed Action

The proposed action best meets policy guidance, best satisfies site selection criteria, and best resolves identified issues.

Alternatives

The following description details alternatives for implementing the proposed project. Each of the alternatives remains to some degree conceptual. Factors identified in the EA review process may alter the description of one or all of the alternatives. When a decision is made to proceed, the design contract for the project will include all design features and considerations reflected in the environmental assessment.

Alternative 1: No Action–Continue Present Management Plans

Goal

Execute currently planned management actions to preserve, protect and interpret the Oregon Trail at and around the Flagstaff Hill site.

Discussion

Three BLM plans address management of the project area. They are: the Baker MFP, the proposed Baker RMP, and the Vale District Draft Oregon Trail Management Plan. All three define actions to protect segments of the Oregon Trail within and adjacent to the proposed project site (see Map 3 for conceptual site plan).

1) Protection of Historic Resources. The public land would be designated as an ACEC. Under this designation, federal undertakings within one-quarter mile on either side of the Oregon Trail would avoid or minimize disturbance to the ruts or their historic setting. Neither BLM plan proposes to rehabilitate the existing disturbances to, or remove existing intrusions on, the Trail. Off-road vehicle use of the Oregon Trail ruts would not be allowed. The plans do not propose any disturbance to the Auburn-Burnt River Wagon Road or the Eagle Valley Railway grade.

2) Mineral Withdrawal. The BLM would seek withdrawal of 75 acres of federal mineral estate located north of Highway 86 to provide minimum protection of Oregon Trail ruts (see Map 4).

3) Land Acquisitions and Easements. The BLM would negotiate land exchanges to acquire approximately 0.22 miles of the Oregon Trail adjacent to Flagstaff Hill, where private and public ownership are intermingled. The Bureau would also attempt to acquire (by land exchange or preservation and access easements) three miles of Trail ruts south of State Highway 86, on Virtue Flat.

4) Interpretation. The BLM would repair and maintain the present Bicentennial Wayside interpretive facility. Some modest additional interpretation would describe the local historical context for the Oregon Trail and the emigrant experience, and distinguish between the Auburn–Burnt River Wagon Road and the Oregon Trail. To reduce the effects of vandalism, the Bureau would install protective panels over existing and new interpretive signs.

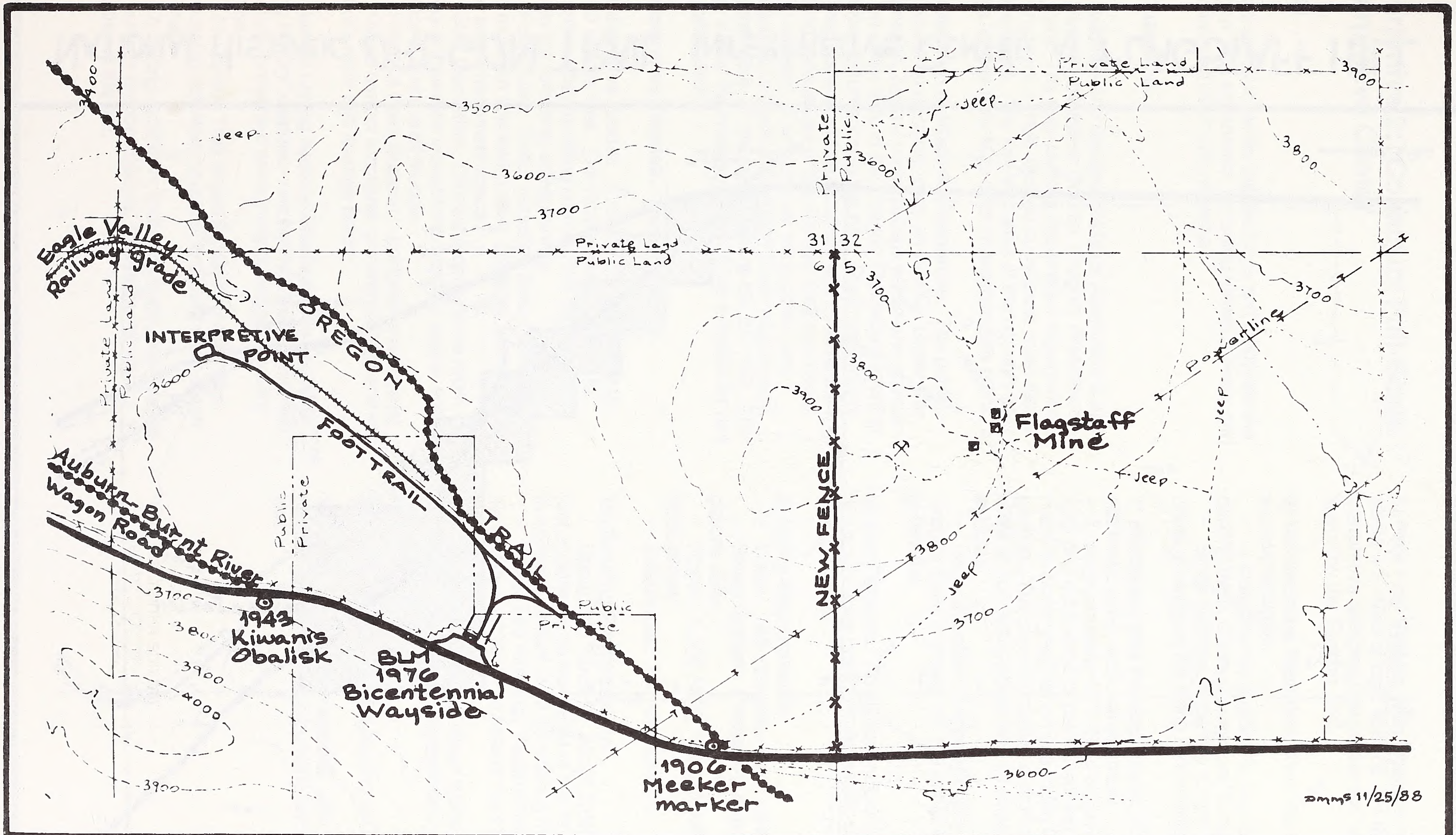
The BLM would also work to more suitably locate the Meeker Oregon Trail monument. The Kiwanis monument would remain in its present location. Historic resources on private lands would be neither interpreted nor marked to identify their location.

5) Foot Trails. The Bureau would mark or construct approximately two-thirds of a mile of foot path to direct visitors to the Oregon Trail and a Powder River Valley overlook.

6) Protection of Visual Resources. The BLM would manage visual resources on federal lands within the defined viewshed for the Oregon Trail to meet visual resource management (VRM) Class III objectives. Active mining operations would occur within the viewshed as seen from the Oregon Trail and Flagstaff Hill. The Bureau would not rehabilitate or redesign local intrusions on the historical setting.

7) Livestock Grazing/Vegetation Rehabilitation Plan. The BLM would eliminate livestock grazing on and adjacent to the Oregon Trail in the vicinity of Flagstaff Hill. The BLM would also implement a vegetation rehabilitation plan to restore the native plant community and control the invasion of weedy, non-native plants expected when grazing is stopped. In addition, the BLM would issue a crossing permit authorizing passage of livestock under conditions that minimize the impact of the passage on the interpretive and historic values. The permit would specify numbers of animals, dates, times and routes of passage. The route specified would avoid all historic properties.

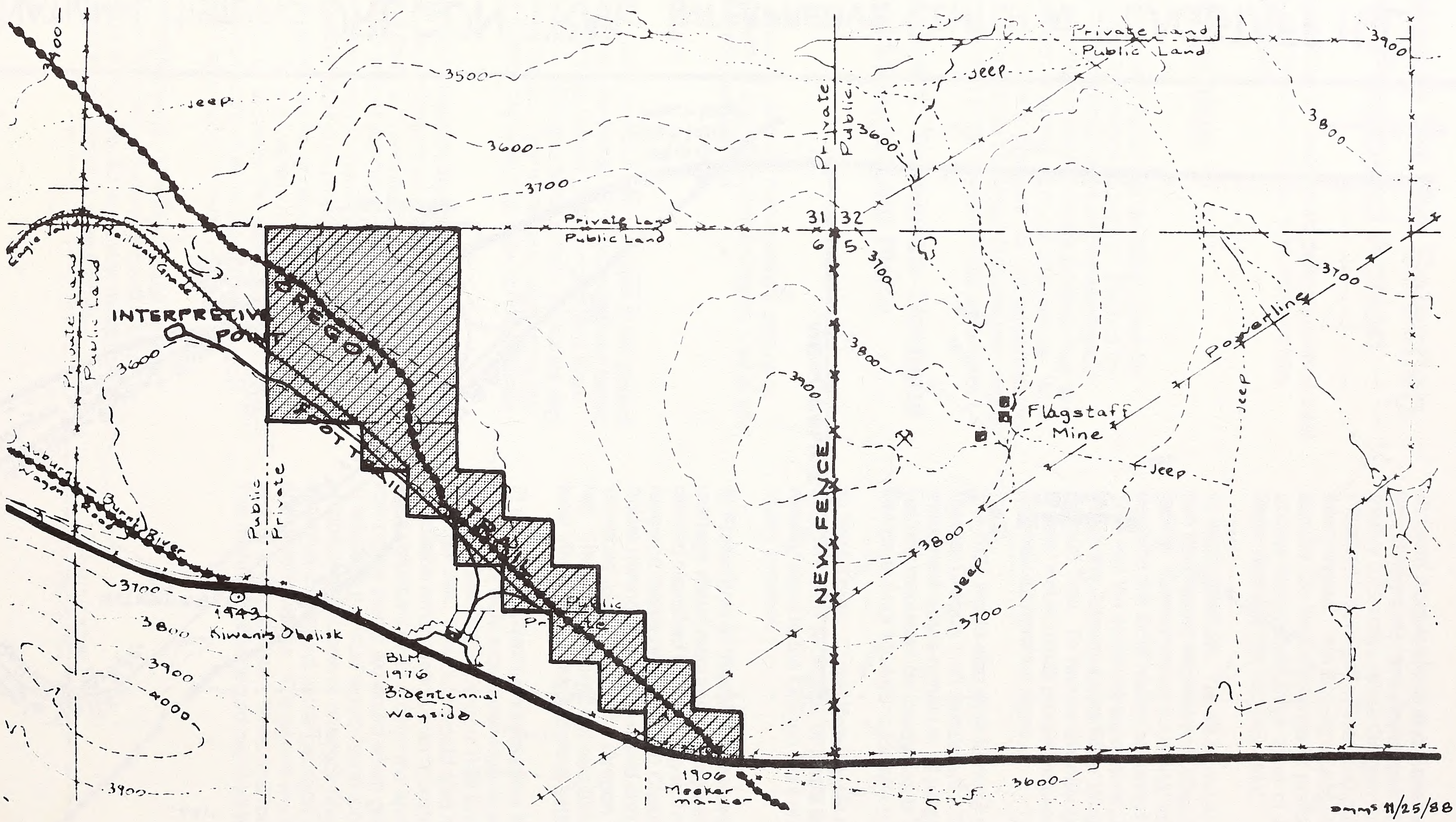
MAP 3



NATIONAL HISTORIC OREGON TRAIL INTERPRETIVE CENTER AT FLAGSTAFF HILL

SITE MAP ALTERNATIVE 1. NO ACTION

MAP 4



NATIONAL HISTORIC OREGON TRAIL INTERPRETIVE CENTER AT FLAGSTAFF HILL

PROPOSED MINERAL WITHDRAWAL • ALTERNATIVE 1. NO ACTION

Alternative 2: Construct Full-Scale Interpretive Center

Goal

Create a visitor center that portrays and interprets the Oregon Trail experience, including historic events and activities and their cultural value.

Discussion

The rationale and design details for Alternative 2 are described in the *Baker County, Oregon, Preliminary Site Plan*. The plan defines interpretive requirements and proposes a multi-faceted complex to meet those requirements. The key elements of the county's plan are as follows (see Map 5 for conceptual site plan).

1) Protection of Historic Resources. The public land would be designated as an ACEC. Under this designation, federal undertakings within one-quarter mile on either side of the Oregon Trail would avoid or minimize disturbance to the ruts. Stock waterholes and jeep trails would be removed and rehabilitated. Off-road vehicle use of the Oregon Trail ruts would not be allowed. The plans do not propose any disturbance to the Auburn-Burnt River wagon road, Flagstaff Mine, or the stone feature (35 BA 105). The Eagle Valley Railroad grade would be adapted for use as a hiking trail.

2) Interpretive Themes. See Appendix E.

3) Interpretive Center. A facility of approximately 23,000 square feet. The facility would be built to conform to state building codes. The facility would contain the following activity areas.

- Public Use: Visitor reception lobby; an auditorium, museum and interpretive displays; restroom, sales and refreshment space.
- Staff Operation: Offices, a conference room, display preparation workrooms, storage space, staff restrooms and a staff lounge.
- Physical Plant Support: Janitorial, mechanical and climate control functions, general storage and the curator's work and storage areas.

4) External Living History Displays. Two outdoor "living history" displays--reenactments of pioneer era activities--presented seasonally during peak visitor months.

- An Oregon Trail encampment demonstration showcasing activities typical of emigrant daily life on the Trail.
- A mining exhibition, including both underground and surface demonstrations, illustrating mining activities of the era.

5) Foot Trail System with Interpretive Stations. About 4.3 miles of hard surface foot trail, with four interpretive stations, viewpoints and two footbridges spanning the Oregon Trail.

6) Maintenance Facilities. Two maintenance support facilities.

- A maintenance building to house a repair shop, parking bays, office, storage and living quarters.
- Stock facilities, including corrals and a loading chute, to support the living history displays.

7) Roadways and Parking Areas. On-site and off-site traffic safety and management.

- Approximately 1.71 miles of paved, all-weather road and 6.28 acres of paved parking (at two locations) to accommodate on-site traffic flow and vehicle parking. The plan anticipates a top capacity requirement of 300 automobiles and 40 buses or recreational vehicles.
- Reconstruction of approximately 1,600 feet of Oregon State Highway 86, the public highway access to the site.

8) Entry Station. An 80 square foot building located at the site entry point to collect fees, control traffic and assist visitors.

9) Utility Requirements.

- Water: 100-125 gallons per minute.
- Sewer System: Processing capacity of 15,000 gallons daily.
- Power: 1,200 AMP, 110/220 volts, single and three-phase.
- Telephones: Five-line system.

10) Fencing Requirements.

- Upper Site Fencing: About 2,840 feet of seven-foot cyclone fence northeast of the interpretive center to separate visitors from an existing mining operation.
- Lower Site Fencing: Approximately 1,400 feet of six-foot cyclone fence to secure the maintenance support facilities.
- Livestock Fencing: About 2,500 feet of fencing to exclude grazing from approximately 415 acres in the project area.

11) No Hunting. Prohibit hunting on the project site.

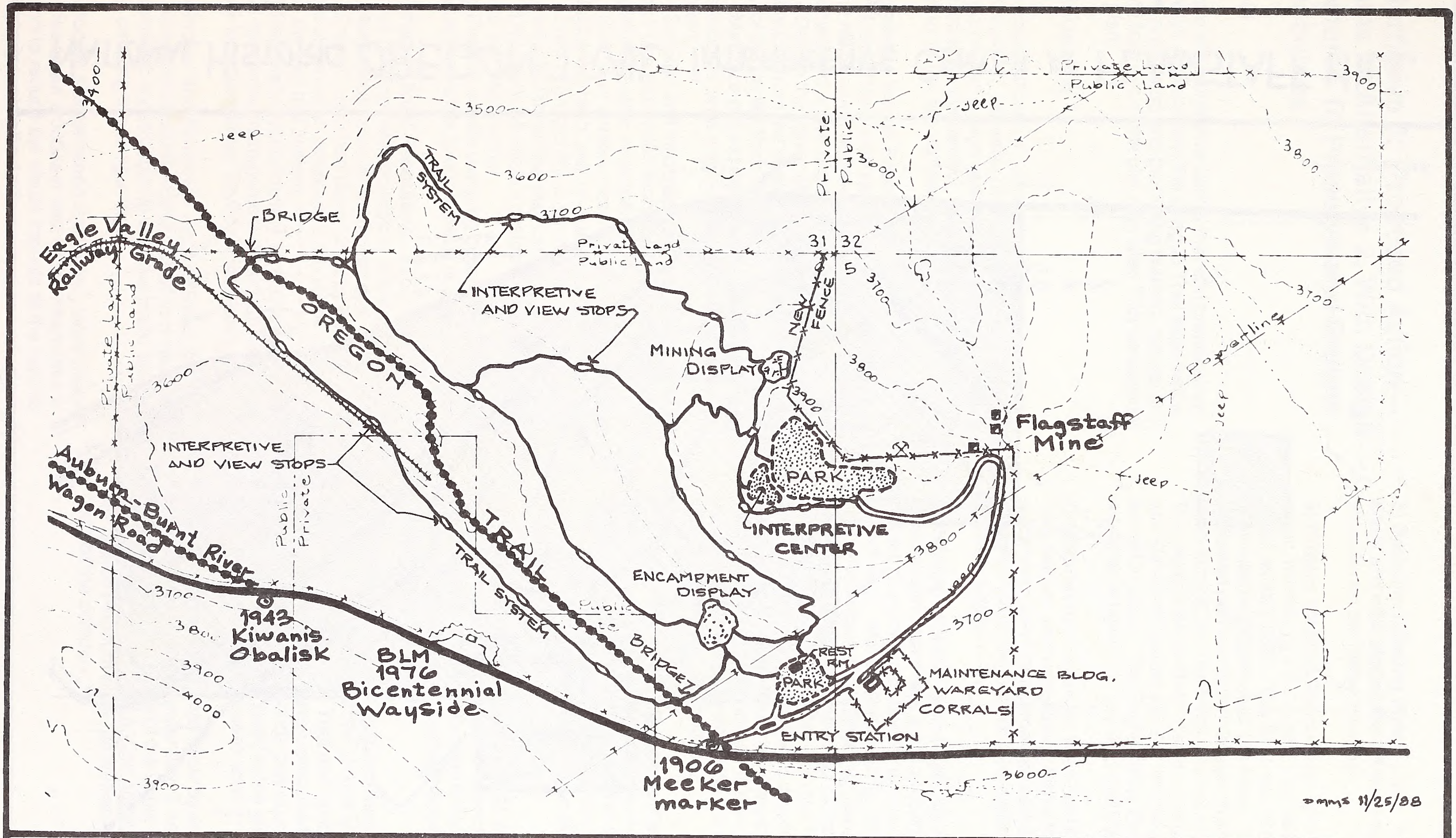
12) Landscape Requirements. Landscape to harmonize facilities with surrounding terrain and vegetation.

13) Private Lands.

- Acquire privately held land that falls within the project perimeter by purchase or by exchange for property of equal value.

14) Mineral Rights.

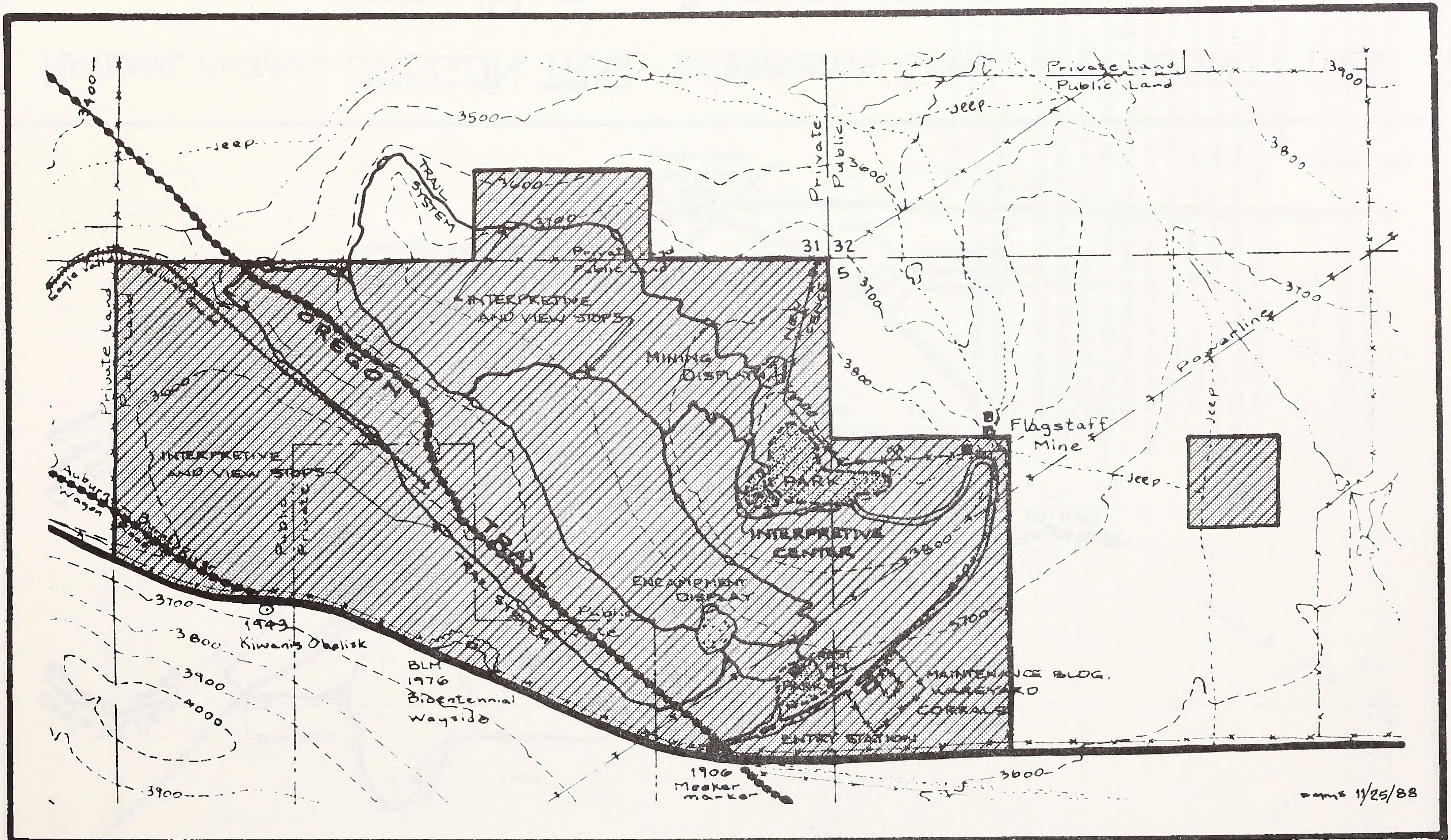
- Mineral Withdrawal. Withdraw from mineral entry under the mining laws approximately 470 acres of federal mineral estate (see Map 6). The withdrawal would be the minimum size needed to protect the project area and historic properties from the future location of mining claims and related mineral resource development. Approximately 346 acres are located with mining claims as of October 21, 1988. The goal of the withdrawal is to prevent new entry and exploration within the proposed project boundary and to allow development only by claimants with "valid existing rights."
- Quitclaim Easements. Seek quitclaim easements from mineral claimants for protection of the proposed improvements.



NATIONAL HISTORIC OREGON TRAIL INTERPRETIVE CENTER AT FLAGSTAFF HILL

SITE MAP ALTERNATIVE 2.

MAP 6



NATIONAL HISTORIC OREGON TRAIL INTERPRETIVE CENTER AT FLAGSTAFF HILL

PROPOSED MINERAL WITHDRAWAL • ALTERNATIVE 2.

Alternative 3: Proposed Action—Same as Alternative 2, With Design Features To Preserve and Protect Resources

Goal

Create an interpretive center that comprehensively portrays and explains the Oregon Trail experience, while preserving and protecting historic, natural and visual features of the site (see Map 7 for conceptual site plan).

Discussion

The basic concept of Alternative 3 parallels that of Alternative 2. However, this alternative highlights and refines project design features that preserve, protect and enhance the historic, natural, and visual resources of the site as follows.

1) Preserve Visual Resources.

- Design the visitor center to blend with the crest of the hill by using native materials, natural color schemes and native plants.
- Design the visitor center so that the Oregon Trail is viewable from the center, while minimizing the visibility of the center from the trail.
- Minimize ground disturbance during construction to reduce the area requiring post-construction rehabilitation.
- Salvage and stockpile as much topsoil as possible to use with fertilization and soil amendments to re-establish native vegetation.
- Wherever construction disturbs the landscape, naturalize contours and re-establish native vegetation.
- Employ temporary erosion control techniques as required until landscape restoration is complete.
- Design runoff control systems large enough to handle 100 year storms.
- Prohibit on-site dumping of excavated material; end-haul materials to appropriate off-site locations.

2) Manage Visual Resources. Apply visual resources management policies to manage the scenic and interpretive value of the project site.

- Expand viewshed boundaries by defining new critical observation positions at the visitor center and along the foot trail system.
- Reclassify approximately 16,000 acres of land to visual resources management (VRM) Class III (see Map 9 for approximate boundary location).

3) Relocate and Redesign Access Road. Move the site access road approximately 2,000 feet east of the Alternative 2 access point to improve traffic safety and avoid crossing the Oregon Trail.

4) Relocate Maintenance Facilities. Move these activities about 2,000 feet east of the Alternative 2 position to reduce the visual impacts to the historic setting adjacent to the trail.

5) Relocate Existing Power Line. Re-route the line south and east around the site to reduce the visual intrusion on the historic setting.

6) Protect Historic Resources. The public land within 1/4 mile of the Oregon Trail would be designated as an ACEC. The BLM would seek nomination of all eligible properties to the National Register. Disturbed portions of the Oregon Trail would be rehabilitated; no intact trail ruts would be disturbed. The Auburn Burnt-River Wagon Road, Flagstaff Mine, and the stone feature (35 BA 105) would be preserved in place. The Eagle Valley Railroad grade would be adapted for use as a foot trail.

7) Monuments. Relocate the Ezra Meeker Oregon Trail marker, and negotiate to move the Kiwanis Club monument, to more appropriate and accessible positions within the project area and to improve highway safety.

8) Develop Historic Resources Management Plan. Develop and implement a comprehensive plan to protect, preserve and monitor historic resources in the project area. Monitor the condition of the Oregon Trail, and Auburn-Burnt River Wagon Road segments regularly to determine the effect of unauthorized pedestrian use. If monitoring shows that unacceptable alterations are occurring, protection measures identified in the plan would be implemented. Ongoing monitoring of all historic resources would be carried out to protect against disturbance and to reduce the effects of vandalism.

9) Flagstaff Mine Data Recovery Plan. Develop and implement a research and data recovery plan to identify and preserve the historic values of the mine. Work with the mineral claimant to develop a cooperative agreement for the preservation of the historic Flagstaff Mine.

10) Comparative Study. The BLM would produce a full data record and comparative resource study of a stone feature (35 BA 105). Information derived from the study would support both resource protection and the interpretive program.

11) Rehabilitate Existing Intrusions. Rehabilitate man-made intrusions on the project site to preserve and protect the Oregon Trail and enrich the scenic value of the location. Areas proposed for rehabilitation include two stock ponds that obscure sections of the Oregon Trail itself, "jeep" roads crisscrossing the area, and the existing access road.

12) Add Segment to Foot Trail System. Add a loop to the foot trail system, extending it around the northeast and east sides of the upper parking lot. This addition would offer a view of the historic (and still active) Flagstaff Mine, as well as a mining site north of the complex.

13) Add Foot Trail System Observation Points. Add two observation points to the foot trail system to interpret the mining sites visible from the added foot trail segment.

14) Eliminate Segments of Foot Trail System. Eliminate segments of the foot trail system to reduce the impact to the historic setting but provide adequate access for viewing the Oregon Trail.

15) Eliminate One Foot Bridge. The proposed foot path has been re-located so it would cross the Oregon Trail at the point where the existing stock water pond would be rehabilitated. This would allow access to the trail ruts but only at a point where they have been re-established.

16) Relocate Living History Encampment. To further reduce the impacts to the historic setting, the living history encampment has been relocated to a position north of the visitors center.

17) Eliminate Livestock and associated corrals. Livestock would be eliminated from the living history encampment due to the potential for accidental injury to the visitors, the expense, and the potential maintenance problems.

18) Add Safety Fencing. Separate the active mining areas from the project site with safety fencing.

19) Eliminate Livestock Grazing and Rehabilitate Grazed Areas. Add livestock fence to prevent grazing on the project site and develop access to water sources for livestock. Develop and implement a vegetation rehabilitation plan to restore the grazed area to a native plant community and to control the invasion of weedy, non-native plants expected when grazing is stopped.

20) Prohibit Hunting. Prohibit all hunting within project boundaries.

21) Control Off-road Vehicle Use. Vehicle use within the project area would be restricted to designated roads and trails by a "Notice of Area Closure". Vehicle uses exempt from this order would include those connected with law enforcement, performance of official administrative functions of the BLM, and activities conducted under specific authorizations granted by the BLM.

22) Private Lands. Acquire a scenic easement from the owner of private property within the project boundaries and, seek acquisition of lands or preservation easements for trail segments on Virtue Flat to accomplish the following:

- Protect and preserve the character of the Oregon Trail and its historic setting.
- Secure visitor access and use within project boundaries.
- Eliminate livestock grazing north of the fence in the pasture contiguous to the Auburn-Burnt River Wagon Road.
- Control livestock grazing south of the fence in the pasture contiguous to the Auburn-Burnt River Wagon Road.

23) Mineral Rights.

- Mineral Withdrawal. Withdraw from mineral entry under the mining laws approximately 507.5 acres of federal mineral estate (see Map 8). The withdrawal would be the minimum size needed to protect the project area and historic properties from the future location of mining claims and related mineral resource development. Approximately 399 acres are located with mining claims as of October 21, 1988. The goal of the withdrawal is to prevent new entry and exploration within the proposed project boundary and to allow development only by claimants with "valid existing rights."
- Quitclaim Easements. Seek quitclaim easements from mineral claimants for protection of the proposed improvements.

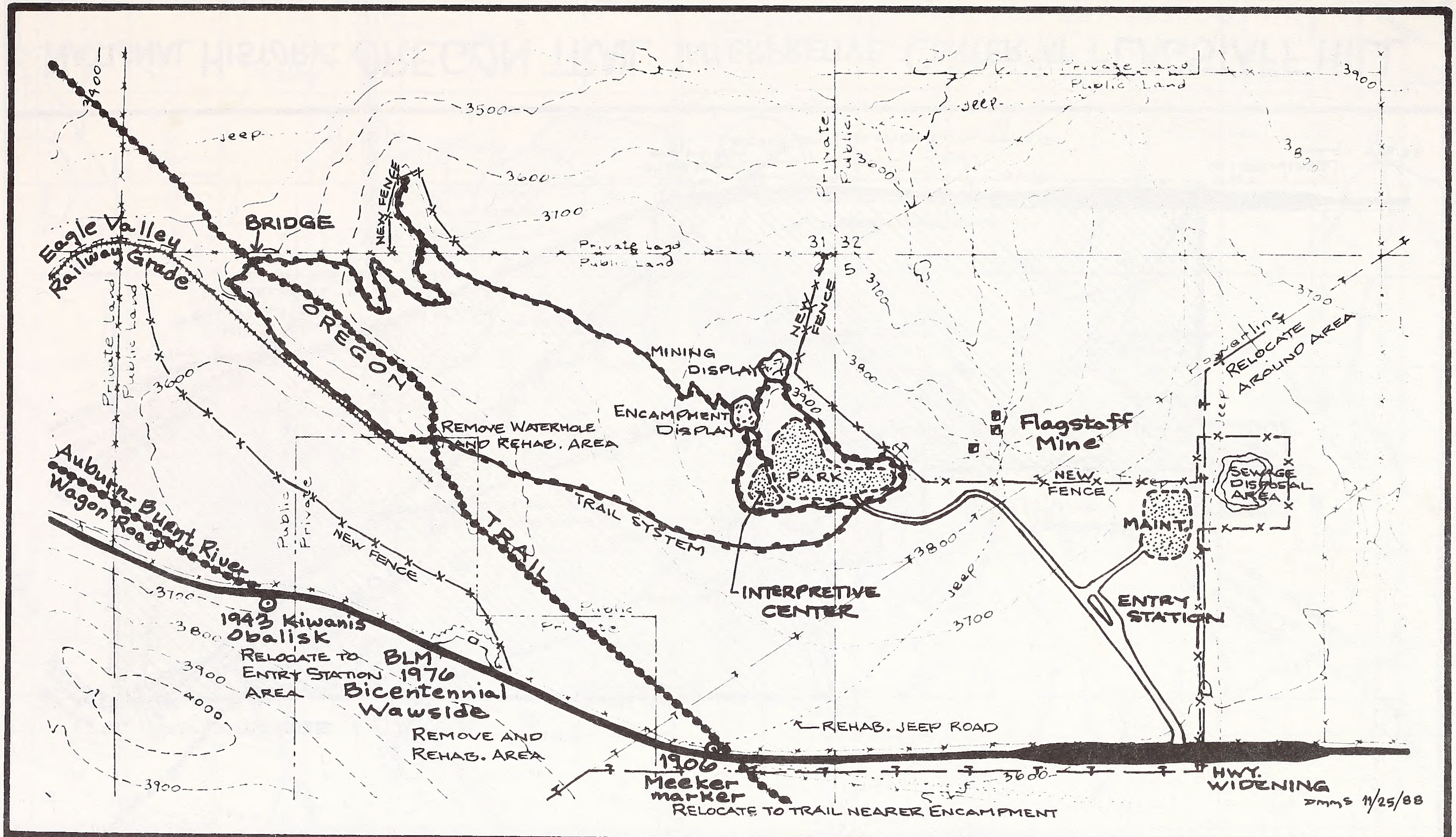
24) Bicentennial Wayside. Remove the existing structure and parking lot and rehabilitate the area.

25) Fire Management Plan. A plan would be developed to reduce the risk of wildfire on the project site and adjacent lands. The danger of wildfire may be reduced by prohibiting smoking on the foot trails and by pursuing educational efforts to inform visitors of the fire hazard. In addition, facility design features should address fire safety. To further reduce the danger to visitors the site could be protected by fire fighting equipment.

26) Coordination With Cattle Drives. The BLM would consult and coordinate with cattle operators who use the highway as a cattle drive route. The focus of negotiations would be development of schedules to minimize highway use at peak visitor times.

27) Visitor Use Monitoring, Education, and Enforcement. A program would be developed and implemented to monitor and encourage visitor use behavior that protects historic and other resources within project boundaries, and resources on private lands in the project vicinity.

28) Other Mitigating Measures. In addition to the features described above, the BLM anticipates that further elements would be added as project information and facility design specifics are developed. For example, if mining occurs, a rehabilitation plan would be developed to return the disturbed areas to conditions approximating historical accuracy, or to adapt the rehabilitated areas for use in the interpretive program.

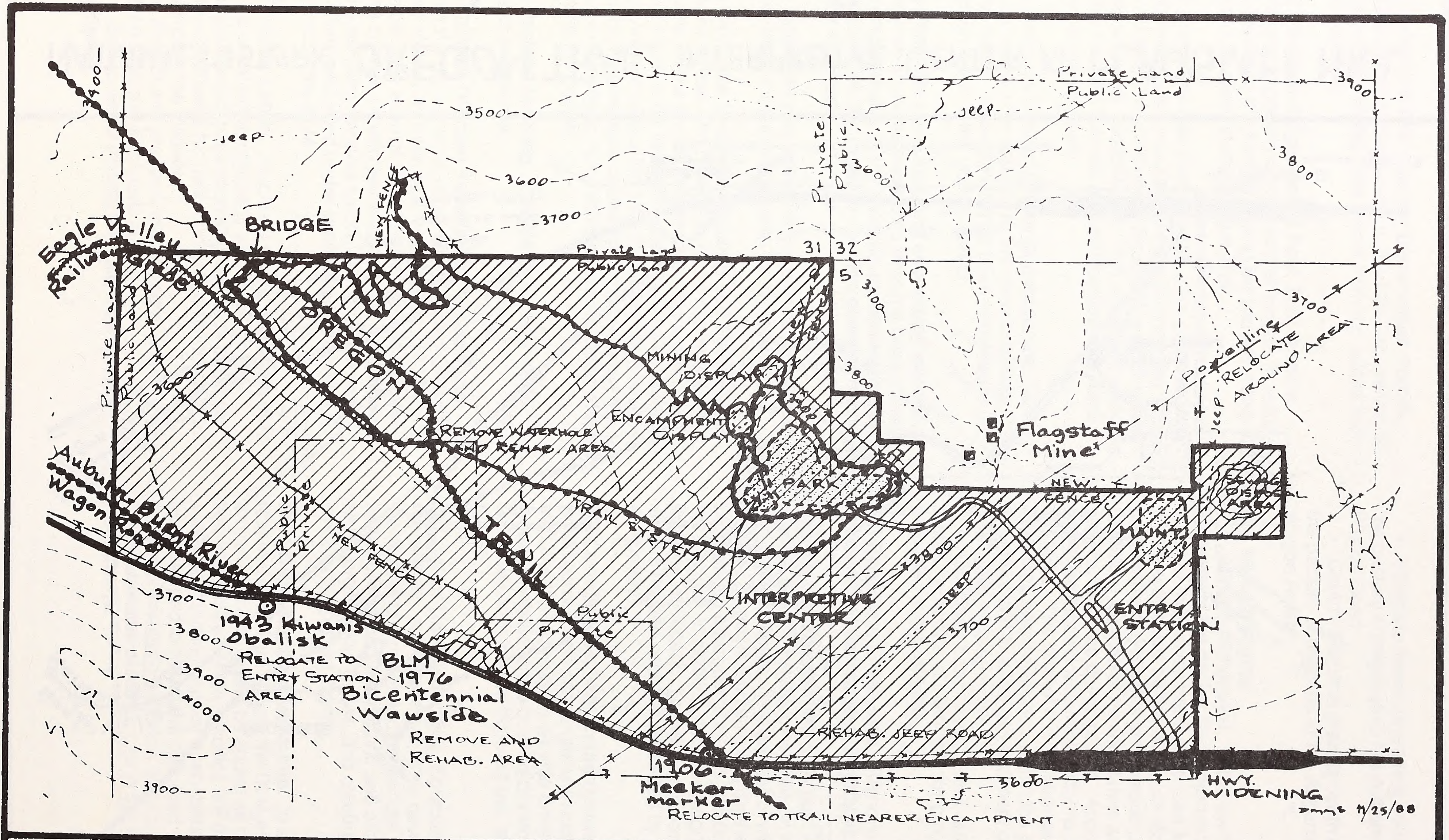


NATIONAL HISTORIC OREGON TRAIL INTERPRETIVE CENTER AT FLAGSTAFF HILL

SITE MAP ALTERNATIVE 3. PROPOSED ACTION

MAP 7

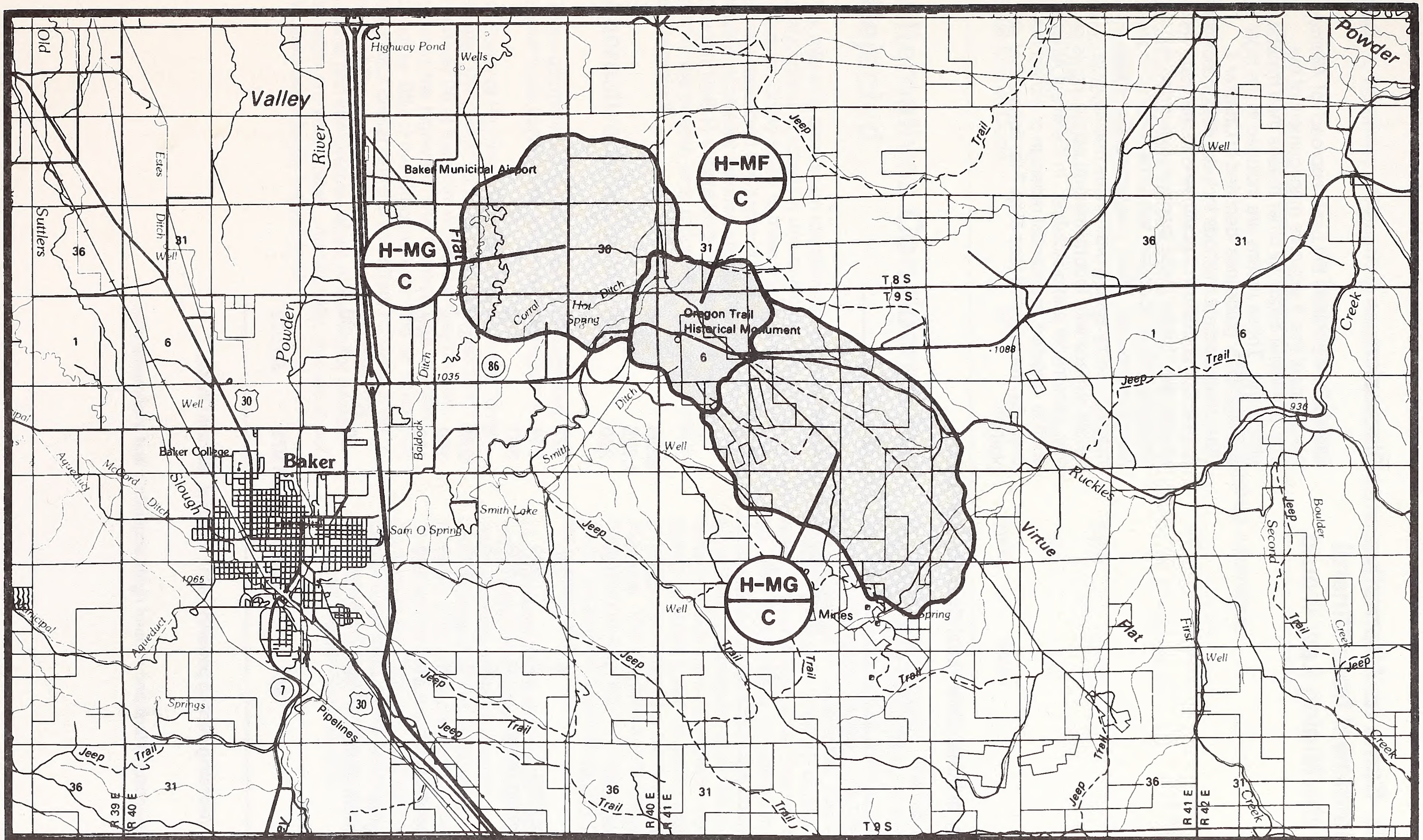
MAP 8



NATIONAL HISTORIC OREGON TRAIL INTERPRETIVE CENTER AT FLAGSTAFF HILL

PROPOSED MINERAL WITHDRAWAL • ALTERNATIVE 3. PROPOSED ACTION

MAP 9



NATIONAL HISTORIC OREGON TRAIL INTERPRETIVE CENTER AT FLAGSTAFF HILL

VISUAL RESOURCES - CLASS III

Alternative 4: Same as Alternative 3–but No Withdrawal from Mineral Entry Under the Mining Law Would Be Initiated.

Goal

Same as Alternative 3.

Discussion

Alternative 4 parallels the basic approach of Alternative 3 except that it explores management of the federal mineral estate by other means than mineral withdrawal. These means are included in the legal and regulatory guidelines identified in Chapter 1. Other management methods include: designation as an ACEC and closure of public land to off-road vehicle use. Under these management practices, claimants and/or operators would be required to file a plan of operations. Other management methods include: county zoning ordinances that apply to private surface with federal mineral estate; rights-of-way, easements and quitclaims. In the event Alternative 4 is selected, substantial redesign of project features may be required (see Map 7 for conceptual site plan).

Table 1. Summary of Initial (One-Time) Costs by Alternative (1987 Dollars)

(In Thousands of Dollars)

Expense Area	Estimated Cost by Alternative #1	#2	#3	#4
Facility & Site Construction Costs				
1. Preliminary Planning	$3	$295	$295	$295
2. Interpretive Center	15	3,903	4,235	4,235
3. Living History Displays	0	365	250	250
4. Foot Path System/Interpretive Stations	6	220	172	172
5. Maintenance Facilities	0	249	249	249
6. Roadways & Parking Areas	0	529	363	363
7. Entry Station	0	8	8	8
8. Utilities	0	229	[1]270	[1]270
9. Fencing	3	100	100	100
10. Vegetation Rehabilitation	10	100	100	100
[2]Land & Mineral Rights Acquisition & Easement Costs	10	10	30	30
Total Initial (One-Time) Costs	$47	$6,008	$6,072	$6,072

[1] Includes $41,000 for relocating existing powerline (C.P. National, Michael Chase, August 16, 1988).

[2] Includes administrative costs of land and mineral rights acquisition and easements only.

Table 2. Summary of Recurring Annual Costs by Alternative (1987 Dollars)

(In Thousands of Dollars)

Expense Area	Estimated Cost by Alternative #1	#2	#3	#4
1. Annual Operation and Maintenance	$1	$250	$250	$250
2. Annual Program Management	1	350	350	350
Total Annual Costs	$2	$600	$600	$600

Alternatives Considered but Rejected

The following discussion identifies alternatives analyzed but rejected for one or more of several reasons. Some failed to meet the site selection criteria described in Chapter 1. Others were found to have a significant adverse impact on the Historic Oregon Trail, to substantially increase the probable cost of the project, or to reduce the interpretive value of the project.

Alternative Site Locations

Three alternate site locations for the interpretive center were considered, analyzed and rejected.

1) South of Highway. This alternative would have located the center south of and directly adjacent to Highway 86 at the point where the Oregon Trail crosses the highway. This location was rejected because little of the Oregon Trail could be seen from the visitor center and the site offers no panoramic vista of the various landscapes. As a result, the scenic and interpretive values of the visitor center location are very limited. Additionally, the site is not located on federally owned land.

2) Original Point Concept. This alternative would have located the visitor center in the northwest quarter of Section 6, just north of and adjacent to Highway 86, approximately 1,000 feet northwest of the existing BLM Bicentennial Wayside. This site was rejected because it does not offer a significant panoramic vista and less of the Oregon Trail is visible from the site. Furthermore, an access road constructed at this location would parallel the Oregon Trail, thereby diminishing the integrity of the historic setting. Additionally, construction of highway slow-down and speed-up lanes is not advisable because of the site's proximity to an extreme, climbing curve in the highway roadbed. The roadbed approaching the site is also flanked by steep, high cut banks which would require costly excavation to create the necessary road width for access lanes.

3) Southwest Slope of Flagstaff Hill. This alternative would have located the visitor center approximately 200 feet north of the intersection of the Oregon Trail and Highway 86. This alternative was rejected because of its close proximity to the Oregon Trail. The proximity increases the potential for physical damage to the Trail ruts, and would create an unacceptable intrusion on the historic setting. Also, this alternative did not offer the panoramic views of the Trail and the surrounding area.

People Mover

An alternative was considered that would have eliminated the need for a parking lot adjacent to the living history demonstration. It would have provided a motorized transportation system to move people from parking lots at the visitor center and the entrance facility. The system would have used a narrow, paved driveway ending about 300 feet from the living history area. This alternative was eliminated because of the potential for significantly increasing annual operation and maintenance costs.

Build Visitor Center into Flagstaff Hill

One alternative proposed constructing the visitor center below the south edge of the hill top and into the hillside. This alternative would reduce the impact of the facility on the Flagstaff Hill skyline; however, it was rejected because it would make the center far more visible from the Oregon Trail, impacting the historic setting and its interpretive value. There is also a concern that this alternative would greatly increase project construction costs.

Reduce the Scale of the Entire Project

One alternative would have substantially reduced the size of all facilities associated with the original project concept. The alternative was rejected because projections of visitation support the need for the project substantially as proposed by Baker County. The Govenor of Oregon, through the Oregon Department of Economic Development, contracted for an independent study of the likely visitation and economic impact. The study estimated that the project could draw 200,000 visitors annually and generate substantial local economic benefit.

Project Development by Baker County or a Private Agent

Alternative agents for developing the project were rejected because Congress directed the BLM to develop the facility (see Appendix A). Additionally, the NPS Comprehensive Management and Use Plan recommends BLM management of the Flagstaff Hill site.

Chapter 3 Affected Environment

This section describes the environmental components of the area that may be affected by the alternatives.

Climate

Northeastern Oregon experiences four distinct seasonal patterns. Seasonal temperatures vary considerably. The average July temperature is 67.7 degrees Fahrenheit (F); the average January temperature is 26.6 degrees (F). The valley averages 95 frost-free days annually. Yearly, the valley averages 23 days with high temperatures exceeding 90 degrees (F) and 185 days with lows below 32 degrees (F). Total annual precipitation, recorded at Baker County Airport, averages 10.63 inches; 7.18 inches is delivered as rain. The area receives an average annual snowfall of 31.3 inches (3.45 inches water equivalent). A typical year has 124 clear days, 87 partly cloudy days and 154 cloudy days.

Historic Resources

The Oregon Trail, its historic setting and monuments are the primary historic resources identified within the area of potential effects for the proposed action. Other cultural resources identified in the project vicinity include a stacked rock feature, remnants of an historic wagon road, a railroad grade, and the historic remains of the Flagstaff Mine.

Of these resources, the Oregon Trail, the historic Auburn-Burnt River Wagon Road, and the Flagstaff Mine are considered eligible for nomination to the National Register of Historic Places (see Appendix C), and deserving of special preservation measures. The remaining cultural resources are not considered eligible for nomination to the National Register. On the whole, however, protection of all the resources will contribute to a comprehensive interpretation of the Oregon Trail as it relates to the history of exploration, emigration, settlement, transportation, and mining in the American West.

The Oregon Trail

Wagon Route

Seven continuous miles of the Oregon Trail extend from Virtue Flat to Missouri Flat at the edge of the Powder River Valley. Slightly less than one mile of this route is located on public lands; the remainder is on private lands. The northwest course of the ruts suggests the Trail's route through the valley to its crossing of the Blue Mountains (see Map 2). First used by Native Americans, and later by explorers and fur trappers, this segment of the Oregon Trail was most heavily traveled as an emigrant wagon route during the years 1843-1865. In the late nineteenth century, the Trail saw continued use as a road to the gold mines then flourishing at Virtue Flat. On a combination of public and private land, four miles of intact, visible wagon ruts ascend a divide in the hills, pass beneath Flagstaff Hill and descend through a ravine to the valley floor. Long stretches of parallel ruts--in places three and four feet deep--are evidence of where the prairie schooners spread out as they crossed the flats. Then they reached the narrow descent to the valley and were compelled to form a single line to negotiate the ravine.

Historic Setting

The Oregon Trail and its setting at Flagstaff Hill have a high degree of integrity. The landscape, as seen from the Trail, is remarkably as it was during the era of overland emigration and early settlement of eastern Oregon. The topography and vegetation of Virtue Flat are representative of that found by the pioneers as they crossed the great sagebrush plains of Wyoming, Idaho and eastern Oregon. The Powder Valley landscape recalls the contrasting environment of mountain-bound valleys through which the emigrants traveled. These valleys anticipated the beauty of the pioneers' destination--the western reaches of the Oregon Territory.

In the era of overland travel, as today, the vista seen from the Oregon Trail on Virtue Flat was that of a wide, flat plain surrounded by low rolling hills. Then as now, the area was covered with a community of sagebrush and bluebunch wheatgrass. In the distance to the northeast, the stark white granite peaks of the Wallowa Mountains appear on the horizon.

As the Trail approaches and descends a low divide south of Flagstaff Hill, the Powder River Valley and Blue Mountains appear. Their peaks rise abruptly from the western edge of the valley, and their densely forested slopes descending to the valley edge. The range gave the emigrant travelers a first glimpse of the rugged terrain that lay ahead.

Only a century ago, the broad Powder River Valley was covered with dense stands of bunchgrass, scattered sage, and a grass known as redtop by the emigrants. The Powder River and its sloughs, fringed with willows and cottonwood, meandered through the nearly treeless valley basin. Decades of settlement changed the Powder Valley landscape. Scattered ranches appeared across Missouri Flat and the greening of the valley floor heralded the introduction of modern irrigation and cultivation techniques. Agriculture obliterated the traces of the Oregon Trail across the valley. A small city grew up in the southwest corner of the valley and a major interstate freeway transected its length. However, the community is not visible from Flagstaff Hill, and the expansive vista dwarfs the highway and its traffic. Overall, a sense of the emigrant response to the panorama of the Powder Valley remains: the promise of Oregon's fertile valleys and abundant resources, and relief at the end of the arid and tortuous Burnt River Canyon passage.

The sagebrush steppe and surrounding mountains are the dominant physical elements of the historic setting at Flagstaff Hill. Of the few intrusions in the vicinity, the most noticeable compromises to the historic setting are State Highway 86 and a power transmission line crossing the site. Other, generally unobtrusive, modern developments include jeep trails, small stock waterholes, and isolated ranch buildings. Recent and historic evidence of gold mining may be seen on the face of Flagstaff Hill and on the more distant hillslopes enclosing Virtue Flat. The expansive vista minimizes the visual effect of these intrusions. In the final tally of features, the historical landscape prevails.

Oregon Trail Monuments

The Baker community has expressed its continuing regard for its pioneer heritage by erecting four historical monuments to the Oregon Trail through the years. Two of these were set along the Trail near Flagstaff Hill, both adjacent to the state highway. One of the monuments is an inscribed granite block placed on the Trail in 1906 by Ezra Meeker. In that year, Meeker traveled by wagon across the country to the nation's capital. Along the way, he encouraged the local citizenry to erect monuments to the Trail. He marked the Trail in various ways, promoting national recognition of the enduring accomplishments of the Oregon Trail pioneers. The second monument, an imposing cobblestone obelisk with bronze medallion, was erected on public lands near the Trail, in 1943, with local support from the Kiwanis Club.

Stone Feature (35 BA 105)

A rock feature, 35 BA 105, is located on private land. The site is a semi-circular stacked stone wall. Its location and configuration suggest it served as an observation point or concealment structure, and perhaps was used as a hunting blind. The feature is probably of prehistoric origin.

Auburn-Burnt River Wagon Road

A one-half mile wagon road remnant, probably the 1862 Auburn-Burnt River Wagon Road, is located at the northwestern edge of the project area. Gold seekers followed this route from the emigrant road to the mining town of Auburn and to the placer diggings in the foothills of the Blue Mountains. Later decades saw the development of gold mines in Virtue Flat and the Wallowa Mountains, along with the settlements that grew up around these discoveries. The early wagon road became a local thoroughfare to and from these areas.

Flagstaff Mine

One of the several gold lodes developed in the Virtue Mining District was the Flagstaff Mine, which was consolidated as one operation following the initial registration of several lode claims between 1894 and 1896. A decade later, extensive developments at the Flagstaff Mine included a 20 stamp mill, cyanide processing plant, shaft house and structures to house workers atop Flagstaff Hill. The archaeological evidence and structural remains of these surface developments are located at the project's east boundary.

Eagle Valley Railway Grade

During the gold mining boom of 1900-1910, entrepreneurs planned to expand rail facilities to reach the mines and uncut forests of the region. In 1905, east coast investors advanced a proposal to construct an electric or steam railway from Baker City to the eastern parts of the county. Rights of way were secured in 1905 for the construction of the Eagle Valley Railroad. The proposed route of the railroad was to ascend from the valley floor toward Virtue Flat, through the divide below Flagstaff Hill. Apparently construction of the grade bed began, but was abruptly terminated. One mile of the uncompleted railway route is located in the project area, paralleling a portion of the Oregon Trail.

Recreation Resources

The recreation opportunities currently associated with the project site include the interpretive value of the location, general sightseeing and some hunting.

Interpretive Value

The Flagstaff Hill historical site and adjacent areas offer seven interpretive features.

1) The visible wagon ruts of the Oregon Trail.

2) A BLM Bicentennial Wayside (1976) commemorating the Oregon Trail. The wayside includes a fifteen vehicle parking area, four illustrated panels interpreting general Oregon Trail history, a shelter, and split rail fencing. From the existing facility, the Oregon Trail cannot be readily identified, and there is no public access to the Trail across intervening private land. Visitors presently cross the split rail fence and walk across private land to view the Trail ruts. The wayside receives from 6,000 to 8,000 visitors annually. Vandals have seriously damaged the site; it is in need of extensive repair.

3) A cobblestone Oregon Trail obelisk erected by the Baker Kiwanis Club. The obelisk, commemorating the Oregon Trail, is immediately adjacent to State Highway 86 in a small pullout from the east bound traffic lane. The pullout, as presently configured, is a traffic safety hazard. It does not conform to Oregon Department of Transportation requirements for visual warning of off-highway sites of interest.

4) An Oregon Trail granite marker erected by Ezra Meeker. The marker is located immediately next to the access road for the Flagstaff Mine. In 1987, the Oregon State Highway Department bladed and gravelled a pullout near the marker for visitor access. The area is small and narrow, allowing only two passenger vehicles or one bus to use the site at one time.

5) Visible wagon ruts of the Auburn-Burnt River wagon road.

6) Incomplete, abandoned railway bed for the proposed Eagle Valley Railroad.

7) Historical features of the Flagstaff Mine.

Other Recreation Opportunities

Within the project area, the only other recreation activities are general sightseeing and hunting. Both upland game (chukar) and big game (mule deer) are hunted within the area. Visitor use associated with hunting is estimated to be less than 100 persons annually.

Visual Resources

Flagstaff Hill rises 500 feet above the floor of the Powder River Valley. It offers a commanding view of three distinctive landscapes: the arid sagebrush plain of Virtue Flat to the east end, and, to the west, the fertile agricultural plain of the Powder River Valley bounded by the peaks of the Blue Mountains. This vantage point also presents a fine view of the Eagle Cap peaks of the Wallowa Mountains to the northeast. Flagstaff Hill is situated at the transition point between rolling sagebrush hills and the fertile Powder River Valley. The hill is composed of rocky bluffs formed by basalt flows. The slopes of the hill, and the rolling country below, are covered with mature sagebrush. At the south base of the hill lies a narrow ravine through which the Historic Oregon Trail drops into the Powder River Valley. The passageway contains well-preserved wagon ruts.

The existing visual resource management (VRM) classification is Class III. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominate features of the characteristic landscape (BLM Manual 8410-1 [7]).

The VRM influence zone for the Flagstaff site is State Highway 86; the Bicentennial Wayside is the critical point of observation for the zone of influence. From this vantage point the field of view is limited.

- Foreground. To the north the foreground extends just to the top of Flagstaff Hill. To the east, the foreground stops at the northern end of Virtue Flat. To the south, the abrupt ridge adjacent to State Highway 86 interrupts the foreground view. To the west the foreground consists of low rolling hills. The foreground observation zone includes approximately 1,400 acres.

- Background. Two background features are visible from the observation point: the Elkhorn Ridge of the Blue Mountains to the west and the Wallowa Mountains to the north/northeast. The observation zone for the background extends over 30 miles to the north and west.

Wildlife

Mammals commonly observed in the proposed project area include pronghorn antelope, mule deer, yellow-bellied marmot, badger, coyote, cottontail rabbit, Belding ground squirrel and woodrat. Birds frequently seen are mourning dove, western meadowlark, horned lark, common raven, black-billed magpie, and red-tailed hawk. Reptiles commonly found in the area are western rattlesnake and the sagebrush lizard. The western sage grouse is occasionally seen north of the site. The U. S. Fish and Wildlife Service has proposed this bird as a candidate species for listing as threatened or endangered. No threatened and endangered wildlife species were found on the proposed site (see Appendix F).

Soil and Watershed

Soils present within the project area are generally shallow and are not very productive. When disturbed, the soils are highly to moderately susceptible to wind and water erosion, especially on the steeper slopes. Soil classifications at the project site vary. On Flagstaff Hill itself, and on the surrounding slopes, soils are shallow, very cobbly silt loams or very cobbly clay loams. Along Highway 86, the soils are moderately deep silt or clay loams. Clay content generally increases with depth, resulting in slower water infiltration rates in the subsoil. Two of the soil types have hard pans (indurated clay pans) present at shallow depths (U.S. Soil Conservation Service, 1988).

The two small drainages present in the area are moderately stable except where the surface has been disturbed. However, due to slow infiltration rates and sparse vegetation the area is susceptible to sheet and gully erosion and mud flows during high intensity storms.

Vegetation

The vegetation at the proposed site is composed of a sagebrush/bunchgrass complex. The major plants present are big sagebrush, rabbit brush, bluebunch wheatgrass, Idaho fescue, needle grass, Sandburg bluegrass, cheatgrass and various forbs (non-woody, herbaceous plants). Flagstaff Hill's upper slopes have a good cover of grasses, shrubs and forbs, while the lower slopes are sparsely covered. No sensitive or threatened and endangered plant species were found at the proposed site (see Appendix F).

Livestock Grazing

The project site falls within the boundaries of the BLM's North Flagstaff grazing allotment #2078. The entire allotment encompasses 1,864 acres, 62 of which are private land. A fence running north-south divides the allotment into two pastures. The east pasture contains 1,068 acres and the west pasture contains 796 acres. The project site falls entirely within the west pasture and would encompass a maximum of 450 acres of that area. Reliable water sources are poorly distributed within the allotment. They are presently located along the west side of the west pasture and in the northeast corner of the east pasture. The grazing permittee hauls water to achieve better cattle distribution throughout the pasture. The allotment is grazed on an alternating spring-fall grazing system. Each pasture is grazed during the growing season every other year. The permittee currently grazes 116 head of cattle from mid-April to mid-May and during the month of November.

Two to three times each year, ranchers drive cattle on Highway 86 between the Powder Valley and the Virtue Hills.

Geology and Mineral Resources

Regional Geology

> Rocks which make up the Blue Mountains of northeastern Oregon are divided into two main groups on the basis of their geologic ages and origins. The older of the two groups ranges from Devonian to Late Jurassic in age and is made up chiefly of rocks which at one time were part of an ancestral Pacific Ocean. According to plate tectonic theory, these rocks represent fragments of ancient ocean floor and volcanic islands that were broken up, moved across some unknown breadth of ocean, and added onto what was then the outer edge of the continent (Brooks 1979).

Molten igneous bodies intruded the marine volcanic and sedimentary rocks several times. Other tectonic forces have faulted, deformed and metamorphosed the rocks to varying degrees. See Appendix G for an explanation of geologic ages.

The younger group of rocks is of Cenozoic age and consists of sedimentary and volcanic rocks that were deposited on dry land or in freshwater lakes on top of the older rocks which had become part of the continent. Erosion has removed the Cenozoic rocks in many places, exposing the older, pre-Cenozoic rocks (Brooks 1979).

Most of the metallic mineral deposits discovered in northeastern Oregon were formed by hydrothermal (hot water) systems associated with submarine volcanism or two major phases of igneous intrusion. The mineralization includes precious and base metal veins, strata-bound precious and base metal sulfide deposits, and limestone replacement (tactite) deposits (Fredericksen and Fernette 1983). See Appendix G for a summary of the geology and mineral resources which occur in northeastern Oregon.

Mineral Resources

Tertiary age basalt flows, approximately 200 feet thick, cover the top and western flank of Flagstaff Hill and appear to be younger than any mineralization. Still younger lake sediments occur along the southeastern edge of the proposed project area (Brooks and McIntyre 1977).

A Triassic age gabbro (an intrusive igneous rock) underlies the basalt and lake sediments. The gabbro exhibits varying amounts of metamorphism, shearing and alteration. Gold and silver mineralization occurs in some of the altered shear zones, fault gouges and quartz veins exposed both at the surface and in the underground workings of the Flagstaff Mine. The mineralized structures vary in trend from northeast-southwest to north-south and dip steeply, principally to the southeast (Rimal 1988).

Past Mineral Production

The Flagstaff Mine was worked from 1894 to 1910 (Beckham 1988), in 1923, and again in the late 1930s. An inclined main shaft was developed to 760 feet below the collar. Working levels were developed at 265, 365 and 565 feet (Gilluly, Reed and Park 1933). Total gold production is estimated to have been 6,000 to 10,000 Troy ounces. No major production has occurred since the 1930s.

Recent Exploration

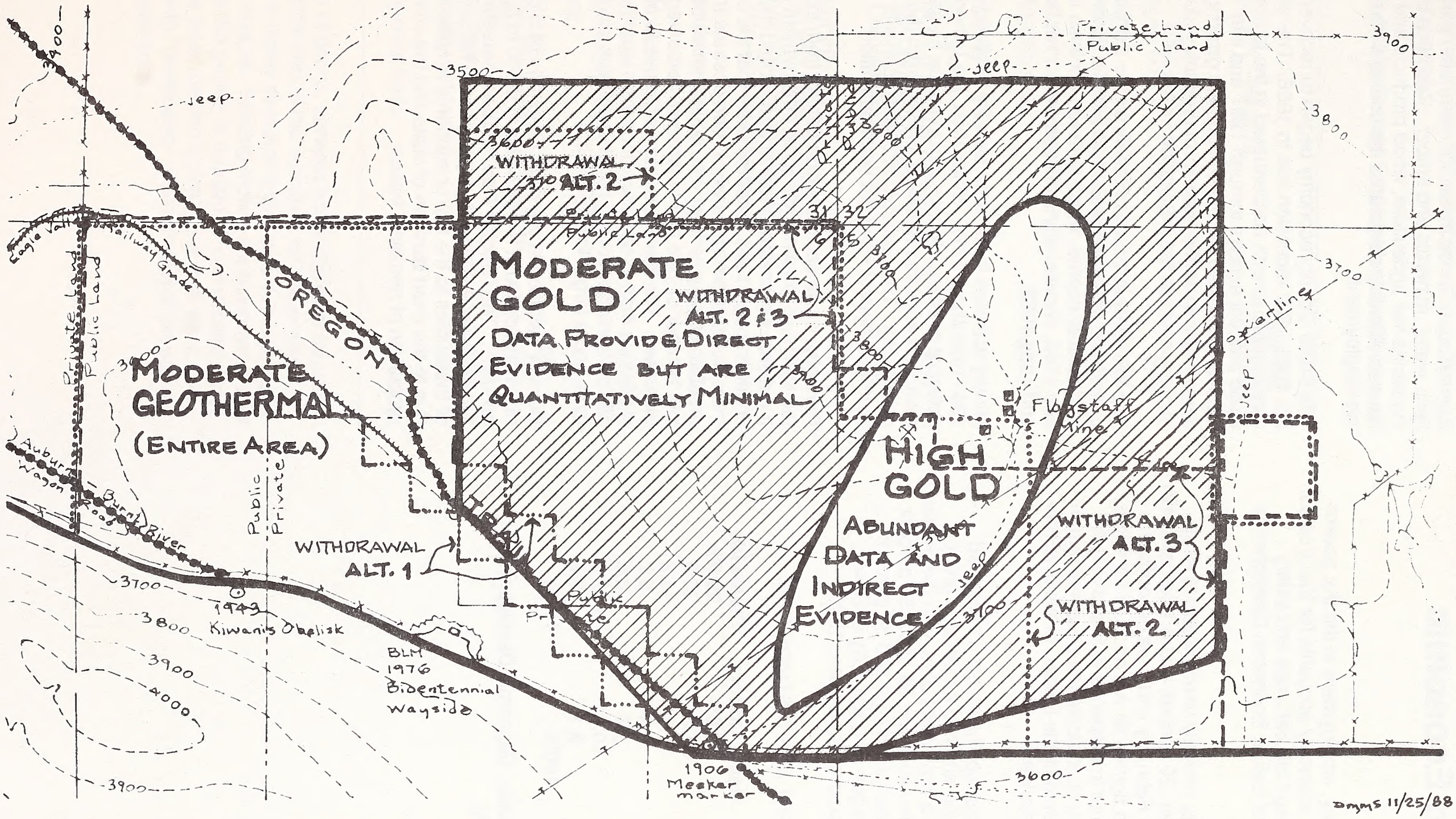
Interest in the Flagstaff Mine and surrounding area has grown during the past 10 years. At least one unsuccessful attempt was made to reactivate the mine during this period. Sunshine Mining Company explored the Flagstaff Mine and the Cliff Mine, located about a mile north of the Flagstaff Mine, three years ago. Hecla Mining Company is presently evaluating both properties. Hecla's exploration program includes geologic mapping, geochemical sampling, geophysics, drilling, and shallow trenching both within and outside of the proposed project boundary. The preliminary results from Hecla's exploration program have been encouraging. The results indicate that an open pit and/or underground gold and silver mine may be in the realm of possibility in the near future. More exploration is needed to confirm or refute this possibility.

Potentially hazardous conditions exist at the Flagstaff Mine. Most shafts and all underground workings above the 265-foot level have caved in completely from the surface, down. In recent years, an air shaft provided access to the underground workings. The air shaft remains open at the surface. However, last fall an underground section of the air shaft collapsed.

Mining claims are located on over 75% of the proposed project area. THC, Inc., is the major claimant. Big Turtle Mines and Leroy and Patricia Valentine also hold mining claims that occupy small areas within the proposed project boundary.

Mineral Resource Potential

The mineral potential of the proposed project area has been documented by a report entitled, "Mineral Potential of the Flagstaff Hill Area, Baker County, Oregon" (Rimal 1988). Map 10 shows the mineral resource potential of the Flagstaff Hill area. Approximately 80 acres show high potential for the accumulation of gold and silver resources. A much larger area shows moderate potential for the accumulation of gold and silver resources and geothermal resources suitable for direct heat applications. The lands have little or no potential for the accumulation of coal, sodium, potassium, or oil and gas resources (Rimal 1988).



NATIONAL HISTORIC OREGON TRAIL INTERPRETIVE CENTER AT FLAGSTAFF HILL

MINERAL RESOURCE POTENTIAL

MAP 10

Social and Economic Setting

Within Baker County, employment in the the government sector of the economy accounts for the greatest portion of the non-agricultural wage and salary employment (City of Baker, Economic Development Department 1988).

For the last 4 years, monthly unemployment rates have varied between 20 percent and 6.1 percent, with peaks occurring in February and lows occurring in September. These figures do not account for migration of the labor force in response to seasonal job availability, but they do indicate the seasonal nature of employment related to the timber, farming, ranching, and mining industries.

Baker County demographics reflect a continued relative lack of young and mid-career age groups. The county is also a retirement area, with the proportion of the population over age 65 about 50 percent higher than the national average and 35 percent higher than the Oregon average (City of Baker, Economic Development Department 1988).

PERCENT AGE DISTRIBUTION

Age Group	**Baker County**	**Statewide**
0-19	28.6%	29.0%
20-34	21.3	25.0
35-44	12.7	14.8
45-54	9.9	9.2
55-64	9.4	8.5
65-74	10.0	7.9
75+	8.1	5.6
Total	100%	100%

(Source: City of Baker, Economic Development Department, 1988.)

Baker County is rich in natural resources, particularly land, water, minerals and timber. Resource based industries like agriculture, wood products and mining have traditionally dominated the county's manufacturing employment.

The Baker County economy began to recover from the 1981-1982 recession late in 1986. The area's employment growth concentrated in the lumber and wood product sectors through 1987 and into 1988. Total employment is likely to continue growing at a steady rate while the number of unemployed will decline, even as the population increases.

The economy is based primarily on the extraction and processing of natural resources and on agriculture. Agricultural income, which suffered declines in 1985 and 1986, showed signs of improvement in both 1987 and early 1988.

Mining activities in the area steadily declined from 1941 until about 1975. Since then, the mineral potential of Baker County, including the Flagstaff Hill area, has attracted renewed interest from the mining community. The probable economic benefits of this renewed interest have not been quantified.

Recently, those sectors which benefit from increased tourism have shown substantial employment growth. If national expansion in tourist and related travel continues through 1988, it seems likely that the county's travel-related industries would demonstrate the greatest employment growth, both in terms of absolute number of jobs and in terms of percentage increases. The travel industry continues to offer numerous market opportunities which would eventually be transformed into new businesses, additional jobs, and a larger local payroll.

Current visitation at the BLM Flagstaff Hill Bicentennial Wayside kiosk is estimated at 6,000 to 8,000 annually. The Oregon Trail Regional Museum in Baker draws 9,000 visitors per year. The contribution of these sites to the Baker economy is quite limited due to the short duration of visits and the small proportion of non-local visitors.

Table 3 summarizes 1987 employment in Baker County, by sector.

Table 3. Baker County Employment Summary, 1987

Employment Category	Number Employed
Civilian Labor Force	
Unemployed	450
Employed	6,260
Total Civilian Labor Force	6,710
Non-Agricultural Wage and Salary Employment	4,470
Manufacturing	
Durable Goods	
Lumber and Wood Products	510
Other Durable Goods	80
Total Durable Goods	590
Non-Durable Goods	
Food and Kindred Products	40
Other Non-Durable Goods	40
Total Non-Durable Goods	80
Total Manufacturing	670
Non-Manufacturing	
Construction	120
Transportation, Communication, Utilities	240
Trade	1,050
Finance, Insurance, Real Estate	250
Services	920
Government	1,250
Total Non-Manufacturing	3,830
Unemployment Rate	6.7%

Provision of goods, services and lodging for tourists is a substantial part of the economy for Baker city. Tourism is highly seasonal with the peak occurring in July and August. Existing motels are being expanded to service the growth in tourism. Motel vacancy rates during the peak season typically average ten to thirty percent with "no vacancy" signs displayed on popular holiday weekends.

Chapter 4 Summary of Environmental Impacts

Introduction

This chapter discusses the environmental consequences which would result from implementation of the proposed project alternatives.

Where the subheadings "Mitigating Measures" and "Irreversible and Irretrievable Commitment of Resources" do not appear in the discussion of a resource, site specific or cumulative adverse impacts for that resource were considered negligible; therefore, no further discussion was necessary. The following resource values are not identified or discussed in the section because the resource is not present, or there are no site specific impacts or they are negligible: wild and scenic rivers, wilderness, threatened or endangered species, paleontological resources, flood plains and wetlands, air, noise, and prime or unique farmlands.

The measures identified in this chapter are possible mitigating measures not designed into alternatives as are project design features (see Chapter 2). They could be incorporated into the alternatives to reduce adverse impacts or to enhance the environment.

The BLM has made no validity determination on any mining claims located within the project area. It is possible that one or more claimants would be found to have “valid existing rights” on their mining claims. Therefore it is possible that an open pit and/or underground mine may be developed adjacent to or within the proposed project boundaries under any of the alternatives. Conversely, it is also possible that mining may never occur in this area again.

Mineral Resource Development Scenarios

The future course of mineral resource development actions in the Flagstaff area can not be accurately predicted. It should be noted that the chances of any mining operation occurring at the site range between 1 in 5 and 1 in 50, based on professional judgment and experience in observing the success of similar properties. However, we have attempted to envision and analyze possible mineral resource development scenarios. The mineral scenarios include “no mining” and the development of an open pit and/or underground mine in and adjacent to the area of high mineral resource potential shown on Map 10. While the scenario assumes a 10-year life, it is not an uncommon experience in similar mining districts for additional discoveries to significantly extend mine life. Exploration results are encouraging but no ore bodies are known to have been defined.

The open pit-mineable deposit is envisioned to contain 6 million tons of ore with a grade of about 0.1 ounce gold per ton which could be recovered by heap leach techniques. The open pit mine, stockpiles, haul roads and other facilities are projected to disturb between 30 and 40 acres. Leach pads and other mill facilities are projected to disturb between 20 to 30 acres and be located to the northeast of the project area. Total projected surface disturbance would be between 50 and 70 acres.

The underground-mineable deposit is envisioned to contain 400,000 tons of ore with a grade of about 0.3 ounce gold per ton which could be recovered by agitation cyanide leach milling techniques. Mine surface facilities, waste and tailings piles, and mill facilities are projected to disturb between 10 to 20 acres. Nearly all of the surface disturbance would be located just outside the boundary of the proposed project area in the vicinity of the historic Flagstaff Mine shafts.

Assumptions for Analysis of All Alternatives

1) Short term impacts for the purpose of the EA are those occurring within ten years. Long term impacts are those occurring more than ten years after implementation of any alternative.

2) The BLM would have sufficient funding and work force to implement the chosen alternative.

3) The BLM administrative costs to implement the chosen alternative are not considered in this EA.

4) The design features described for each alternative in Chapter 2 would be implemented.

5) Mineral exploration, that could result in mining, would continue on the lands adjacent to the proposed project site.

Additional Assumptions for Analysis of Alternatives 1, 2, and 3

6) There would be no “valid existing rights” for mining claims located within the project area on the date the area is withdrawn from mineral entry under the mining laws. The “no mining” assumption is needed to analyze the maximum possible impact on the mineral claimants. However, the answer to the “valid existing rights” question is not known at this time. In addition, negotiations with mineral claimants are being initiated which may result in a mutually agreeable solution not previously envisioned. Therefore future mineral resource development actions could vary from “no mining” to “full” development.

7) If in reality there are "valid existing rights" or other agreements on the date of withdrawal from mineral entry which would allow development of potential gold and silver mines, then the impacts would be similar to those described in Alternative 4.

Additional Assumptions for Analysis of Alternative 4

6) Mineral entry, exploration and development would continue within and adjacent to the proposed project area, both in the short and long term.

7) Short term develop would be as described in the mineral development scenario found in Appendix H.

Impacts to Historic Resources

Alternative 1

Actions under this alternative would have negligible effect on historic properties located on federal or private lands, with the exception of impacts to the historic setting from mining. Unless otherwise noted, impacts are long term.

Oregon Trail

Wagon Ruts

One mile of Oregon Trail ruts would be protected and preserved in place. Providing marked foot trail access to the Oregon Trail would result in increased visitor hiking on wagon ruts, but such activity at present or foreseeable visitor use levels would not likely damage the Trail. Mineral withdrawal would protect the Trail ruts from new mineral entry and related mineral exploration and development.

Historic Setting

Short Term Impacts

Foot Trail/Overlook Construction. Construction of 2/3 mile of foot trail and a valley overlook would result in localized, temporary surface disturbance in the historic setting.

Long Term Impacts

Existing Developments. The interpretive wayside, powerline, stock pond, and jeep trails would persist as unobtrusive intrusions in the immediate historic setting.

Foot Trail/Overlook. The completed overlook and most of the foot trail would not be visible from the Oregon Trail, and so, have no impact on the historic setting.

Mineral Withdrawal. The mineral withdrawal would not lend protection to the immediate historic setting, which could be disturbed by mining operations. The integrity of the setting could be diminished during the life of mining operations and during the period required for recovery of reclaimed surfaces.

Vegetation Rehabilitation. The historic setting would be enhanced by undertaking a program to restore the native vegetation to conditions of historical accuracy.

Monuments

Moving the Meeker monument from the state highway right-of-way to a location along the Oregon Trail would enhance its historic value.

Auburn-Burnt River Wagon Road

The wagon road would be preserved in place. Interpreting the road would lead to increased visitor hiking on the feature, but such activity at present or foreseeable use levels would not damage the feature. Impact on this feature is considered negligible.

Flagstaff Mine

No impacts to the Flagstaff Mine archaeological deposits or features are identified, since the resource is not within the affected environment for this alternative.

Eagle Valley Railroad Grade

The resource would be preserved in place. No impacts are identified.

Stone Feature (35 BA 105)

The feature would not be marked or interpreted. No impacts are identified, since the resource is not within the affected environment for this alternative.

Alternative 2

Actions under this alternative would have some adverse effect upon the Oregon Trail, but would have no adverse effect on other historic properties. Unless otherwise noted, impacts are long term.

Oregon Trail

Wagon Ruts

Slightly less than one mile of Oregon Trail ruts would be protected, rehabilitated, and preserved in place. Mineral withdrawal would protect Trail ruts from new mineral entry and related mineral exploration and development. No intact Trail ruts would be disturbed in connection with the rehabilitation or removal of intrusions. Approximately 50 feet of Oregon Trail ruts would be destroyed by access road construction at the entry station, where an existing jeep trail is located.

The projected increase in visitor use would lead to increased visitor hiking on Trail ruts in the project area, and could result in damage to the Trail. The projected increase in visitor use is likely to result in increased trespass and vandalism to the Oregon Trail on private land on Virtue Flat, and may result in some damage to the Trail over the long term.

Historic Setting

Short Term Impacts

Rehabilitation. Removal of stock waterholes and jeep trails would result in localized, temporary surface disturbances in the historic setting.

Project Site Construction. Temporary intrusions and impacts commonly include: open trenches and other excavations; leveling and grading; soil and debris stockpiles; limited erosion and sedimentation; security and safety fencing; operating and idle heavy equipment; traffic and noise from machines and equipment; highly contrasting areas of disturbed and undisturbed land; and structures in various stages of completion. However, these impacts would only exist during the life of project construction, probably 2 to 5 years, and during the time period required for recovery of native vegetation, probably not exceeding 10 years.

Long Term Impacts

Mineral Withdrawal. Mineral withdrawal would protect the historic setting from new mineral entry and related mineral exploration and development.

Utility Powerline. The existing powerline would persist as an intrusion in the setting.

Facility Complex. From vantage points along the Trail on Virtue Flat, most components of the interpretive complex would be visible as distant, aggregated contemporary modifications in the landscape.

From vantage points along the Trail in the project area, components of the interpretive complex on the southwest slope of Flagstaff Hill would attract the attention of the casual observer. The aggregation of entry and maintenance buildings, access roads, parking areas, and traffic congestion would overwhelm the view adjacent to the Oregon Trail. On the whole, such a large scale introduction of contemporary visual and audible elements would not be absorbed by the landscape, and would substantially diminish the integrity of the historic setting.

Monuments

The Meeker and Kiwanis monuments would be preserved in place. No impacts are identified.

Auburn-Burnt River Wagon Road

The feature would be preserved in place with no interpretation planned. No impacts are identified.

Flagstaff Mine

The projected increase in visitor use could lead to occasional vandalism to the historic resources of the Flagstaff Mine, resulting in damage to the integrity of archaeological deposits.

Eagle Valley Railroad Grade

The feature would be interpreted and portions of its surface would be altered by paving for use as a foot trail. The essential configuration of the railway grade would be preserved in place. This adaptive use would enhance interpretive opportunities while minimizing additional disturbances to the Oregon Trail, which might otherwise be affected by the development of the foot trail system.

Stone Feature (35 BA 105)

The feature would be preserved in place with no interpretation planned. Visitor use of the area could lead to vandalism.

Mitigating Measures

The BLM would undertake educational measures to encourage visitor behavior that protects the Oregon Trail in the project area and on Virtue Flat, as well as the Flagstaff Mine. Further possible mitigating measures would seek to include acquiring lands and preservation easements for the Trail on Virtue Flat.

Irreversible/Irretrievable Commitments of Resources

Fifty feet of Oregon Trail ruts would be permanently lost. The stone feature may be damaged by vandals. The historic setting would be altered and dedicated to historical interpretation.

Alternative 3

Actions under this alternative would have no adverse effect upon the Oregon Trail or other historic properties. Unless otherwise noted, impacts are long term.

Oregon Trail

Wagon Ruts

One mile of Oregon Trail ruts would be protected and preserved in place. The Oregon Trail would be enhanced by rehabilitating disturbed areas to conditions of historical accuracy. No intact Trail ruts would be disturbed. Mineral withdrawal would protect Trail ruts from new mineral entry and related mineral exploration and development.

Despite planned educational measures the projected increase in visitor use could lead to trespass and vandalism to the Oregon Trail on private land in Virtue Flat, and may result in some damage to the Trail over the long term.

Historic Setting

Short Term Impacts

Rehabilitation. Removal of stock waterholes and jeep trails would result in localized, temporary surface disturbances in the historic setting.

Project Site Construction. Same as Alternative 2.

Utility Powerline. Relocation would result in localized, temporary surface disturbance.

Mineral Exploration and Development. To the extent that mining and exploration may occur, impacts would be the same as Short Term impacts identified under Alternative 4.

Long Term Impacts

Rehabilitation. The historic setting would be enhanced by rehabilitating portions of the Oregon Trail to conditions of historical accuracy.

Vegetation Rehabilitation. The historic setting would be enhanced by undertaking a program to restore the native vegetation to conditions of historical accuracy.

Utility Powerline. Relocation would enhance the historic setting.

Mineral Withdrawal. Mineral withdrawal would protect the historic setting from repeated new mineral entry and related mineral exploration and development.

Facility Complex. From vantage points on Virtue Flat, one or more miles south of Flagstaff Hill, elements of the interpretive complex on the south slope would be visible as distant, dispersed contemporary modifications in the landscape.

From vantage points along the Trail in the project area, at the base of Flagstaff Hill, components of the interpretive complex would be unobtrusive or not visible.

The landscape has the capacity to absorb most of these contemporary modifications. Overall, the effect of the interpretive complex on the historic setting would not be adverse.

Monuments

Relocating the Meeker and Kiwanis monuments from their current locations to the project site would enhance their historic values.

Auburn-Burnt River Wagon Road

The property would be preserved in place and interpreted. Interpreting the wagon road would lead to occasional visitor hiking on the feature, but such activity at foreseeable use levels is not likely to damage it. Impact on this feature is considered negligible.

Flagstaff Mine

The property would be preserved in place and interpreted. Despite planned educational measures, increased visitor use could lead to occasional vandalism to the historic resources of the Flagstaff Mine. Construction activity at the top of Flagstaff Hill could inadvertently damage archaeological deposits and features.

Eagle Valley Railroad Grade

The feature would be interpreted and portions of its surface would be altered by paving for use as a foot trail. The essential configuration of the railroad grade would be preserved in place. This adaptive use would enhance interpretive opportunities while minimizing additional disturbances to the Oregon Trail, which might otherwise be affected by the development of the foot trail system.

Stone Feature (35 BA 105)

The feature would be preserved in place. Despite planned educational measures, visitor use in the area may result in vandalism.

Irreversible/Irretrievable Commitments of Resources

The historic setting would be dedicated to historical interpretation.

Alternative 4

Impacts to the following historic resources are the same as Alternative 3, except for impacts to the Oregon Trail.

In the event that mineral exploration and development are pursued, mineral claimants would be required to submit a plan of operations prior to initiating any ground disturbing activities in the project area. A plan of operations would be required because the project area would be designated as closed to off road vehicle use. The plan of operations would be developed taking into consideration all opportunities to avoid or minimize disturbance to the Trail ruts and historic setting within 1/2 mile corridor along the Trail.

Mining claim surface management regulations require the claimant to avoid unnecessary and undue degradation of the environment. When the effects and mitigation of any proposed disturbance to historic properties are thoroughly considered under Sections 106 and 110 of the National Historic Preservation Act, it may be possible for mining proposals to be approved and operations implemented.

Operating procedures and impacts of exploration and surface mining and development commonly include: excavation of open pits and trenches; new roads; soil and mine waste stockpiles; limited erosion and sedimentation; idle and operating heavy equipment; security and safety fencing; traffic and noise from equipment operation; and contrasting areas of reclaimed, disturbed, and undisturbed land.

Additional surface disturbances associated with the milling of ore from an open pit mine and the operation of an underground mine commonly include: construction of buildings, headframes, milling facilities, and leach pads; removal or processing of existing stockpiles or tailings; and accumulation of new stockpiles, waste rock, and tailings.

Oregon Trail

Wagon Ruts and Historic Setting

Short Term Impacts

Project Construction. Same as Alternatives 2 and 3.

Mineral Exploration and Development. Under a scenario which projects one surface mine operation and focuses possible operations in the area of high potential for occurrence, no impact to Trail ruts is anticipated. However, portions of the historic setting of the Trail on the southwest slope of Flagstaff Hill could be affected by mining development.

A moderate sized surface mine development, 30-40 acres, would be visible in the historic setting. During the life of an operation, 10-15 years, episodes of disturbance and reclamation could diminish the integrity of the historic setting; and could introduce multiple layers of incompatible visual and audible intrusions to the project area.

Additional developments associated with milling and underground mining could disturb 10-20 acres in the northeast project area. These disturbances would not likely be visible from the Oregon Trail within project boundaries, and would thus have little or no impact on the historic setting or Trail ruts.

Long Term Impacts

Mineral Exploration and Development. Since 1894, episodes of exploration at the Flagstaff Mine have occurred every 10-20 years, and operations have occurred every 20-30 years. A cycle of repeated disturbance and reclamation activity associated with several mining operations can be expected to continue into the future. Past historic mining has been underground development with limited surface disturbance, confined to the east-northeast slope of Flagstaff Hill, out of view as seen from the Oregon Trail. However, surface mining operations could occur on the southwest and west slope of Flagstaff Hill and would be visible from vantage points along the Trail.

During the life of each operation, depending on the extent and location of mining operations, new areas of disturbance and activity would appear in the landscape which could overwhelm the view from the Trail and introducing multiple layers of incompatible visual and audible intrusions to the project area. Disturbed lands in various stages of reclamation would appear across the landscape.

Under a scenario which projects cyclic episodes of mineral exploration and development over a long period of time, it is likely that approved mining plans could eventually disturb large areas of the historic setting and approximately one-eighth mile of Oregon Trail ruts in the the vicinity of Highway 86.

Although restoration of one eighth mile of Trail ruts could be undertaken, the integrity of the Trail - that is, its original and authentic characteristics - and its historic value could be lost. The present integrity of large areas of the historic setting could be diminished or removed.

Cumulative Effects

Over the long term, surface disturbance resulting from a mining operation of moderate size probably could be rehabilitated in a way which could restore the historic setting to conditions approximating historical accuracy.

However, if multiple individual operations are projected over the long term, the result would be to create a large area within the project boundaries which would appear as a persistent patchwork or mosaic of lands in various stages of reclamation recovery. Under this scenario, restoring the landscape to historically accurate conditions may not be feasible in the foreseeable future. The persistent visibility of Oregon Trail itself is testimony to the lasting effect of decades of surface disturbance, created by the passing of wagon wheels over this fragile landscape.

Irreversible/Irretrievable Commitment of Resources

Over the long term, the integrity of the historic setting and one-eighth mile of Oregon Trail ruts could be lost. The project area would be committed to mining as the dominant land use, impacting the historic and interpretive values of the Oregon Trail.

Impacts to Recreation Resources

Alternative 1

Repair and improvements to the Bicentennial Wayside and development of a foot trail and viewpoint would enhance the interpretive value of the location.

Alternative 2

The proposed interpretive center could increase visitors to the area from the current maximum of 8,000 to a potential 200,000 annually. The effects on the area's recreational resources would be controlled by the design features of the project. The proposed interpretive complex would increase Oregon Trail interpretive opportunities offered at the site and enhance the opportunity to experience the panoramic view from the crest of Flagstaff Hill. The proposed action would dedicate the project area to a single use within the recreation opportunity spectrum, thereby eliminating traditional recreational hunting from the immediate project site. The elimination of hunting would have a negligible impact on recreational opportunities for the area.

Traditional off-site recreation opportunities could be affected. Nearby recreation facilities include the Powder River Sportsman's target range and the Virtue Flat off-road vehicle (ORV) use area. Both are within five miles of the proposed project and could be expected to receive heavier use.

Mitigating Measures

To protect the scenic and interpretive resources the BLM would significantly expand the viewshed as presently defined. The critical observation point for the area would be moved from the present Bicentennial Wayside to the top of Flagstaff Hill, expanding viewshed boundaries.

In order to protect the interpretive and scenic value of the new viewshed, the Bureau would substantially increase the area of land having a VRM Class III rating, requiring that approximately 16,000 acres of land, as seen from critical observer positions in the project area, be reclassified to VRM Class III from its present Class IV rating.

Irreversible/Irretrievable Commitments of Resources

Although the proposed project site has a VRM rating of Class III, the project area would permanently alter the characteristic landscape of the area.

Alternative 3

Same as Alternative 2 except visual resource management opportunities are expanded within the design featues.

Irreversible/Irretrievable Commitments of Resources

Same as Alternative 2.

Alternative 4

A scenario which projects cyclic episodes of mineral exploration and extraction would have an adverse impact on the scenic and interpretive quality of the visitor experience. If the area of high potential is surface mined, the resulting new roads, open pits, soil and debris stockpiles, idle and operating heavy equipment, contrasting areas of reclaimed and disturbed land would constantly shift visitor focus away from the intended interpretive theme--the pioneer experience--and focus it, instead, on the continuing physical and auditory intrusion. In addition, portions of the site would be closed and fenced off for indefinite periods of time while exploration, mining and reclamation activities take place.

In general, long-term mining activities on the site would be incompatible with the currently defined interpretive themes and concepts for the proposed project.

Impacts to Visitor Safety

The potential impacts to visitor safety are directly related to the amount of development, and as a result the anticipated visitor use.

Alternative 1

Alternative 1 would focus recreation use into the area near the Oregon Trail. No improved access would be developed to the vicinity of mining shafts at the Flagstaff Mine. As a result, visitors would be discouraged from visiting the mining site. However, no protection is proposed for the occasional casual visitor who may make his or her way to the mining area.

This alternative retains its current highway access and does not propose moving the Kiwanis monument. This hazard would be similar to the existing situation since only a slight increase in visitation is anticipated.

At present, the semi-annual cattle drives up Highway 86 present only a slight hazard. Alternative 1 would not significantly increase this hazard.

The proposed elimination of livestock grazing would increase the areas vulnerability to wildfire by allowing the vegetation to thrive and reach maturity. However, the anticipated annual 6,000 to 8,000 visitors would not substantially increase the risk of wildfire.

Alternative 2

Alternative 2 brings the focus of activity near the Flagstaff Mine. However, this alternative would provide safety fencing to keep visitors away from potentially hazardous conditions at the mining site. This alternative anticipates considerably greater visitation and traffic congestion between Interstate 84 and the interpretive center. Since slow-down and speed-up lanes are provided, this congestion would be substantially mitigated. This alternative does not propose moving the Kiwanis monument. Heavier traffic flow would increase the danger from vehicles entering and exiting Highway 86 at the Kiwanis monument.

With the increase in traffic on Highway 86 to the interpretive center, the semi-annual cattle drives up Highway 86 may present an inconvenience and a short-term hazard.

The proposed elimination of livestock grazing would increase the areas vulnerability to wildfire by allowing the vegetation to thrive and reach maturity. While hiking the foot trails during the summer season, visitors would be in the midst of easily ignited brush and grass. Because of the anticipated visitor use levels, this could be a serious hazard during the fire season.

Livestock handling at the pioneer encampment could present a potential for injury to employees or visitors.

Mitigating Measures

The BLM would consult and coordinate with cattle operators who use the highway as a cattle drive route. The focus of negotiations would be development of schedules to minimize highway use at peak visitor times.

Alternative 3

The impacts to visitor safety would be reduced by comparison to those identified for Alternative 2. To eliminate or minimize potential highway traffic hazards the Kiwanis monument would be relocated, and cattle drives would be scheduled through cooperative arrangements with livestock operators. Implementation of a fire management plan and educational measures would reduce hazards from wildfire; and livestock would not be included in the living history program for the pioneer encampment.

Alternative 4

The impacts would be approximately the same as Alternative 3 except that there could be a visitor safety hazard as a consequence of active mining operations.

Mitigating Measures

Safety fences would be installed around mining activities that might develop.

Impacts to Wildlife

Alternative 1

Alternative 1 is expected to have minimal impact on wildlife species in the vicinity of the project. Pronghorn antelope and mule deer primarily inhabit the area north of the site and so would be little affected. There would be no effect on sage grouse since they, too, inhabit areas primarily north of the project area.

Alternative 2

Alternative 2 would have limited impact on some of the wildlife species in the vicinity of the project area. Human presence, vehicle traffic and the proposed facilities would cause pronghorn antelope and mule deer to move further north of the site. Loss of about 35 acres of habitat would occur as the result of construction of facilities, roads and the foot trail system. Presence of humans would also decrease the use of the area by most other wildlife. Sage grouse are occasionally seen north of the site. A slight impact on the species is expected as the result of construction and human presence. Resident birds can be expected to move further north of the site as an adjustment to the incursions. Some enhancement of the wildlife resource could be expected as the result of the sewage processing facility. The lagoon and wet meadow would provide favorable watering and feeding habitat for small numbers of sage grouse, waterfowl, shore birds, pronghorn antelope and mule deer. Some species of non-game wildlife would find habitat niches at the project site as the result of the development.

Alternative 3

Approximately the same as Alternative 2.

Alternative 4

Approximately the same as Alternative 2 for impacts of the development of visitor facilities.

Exploration and development phases of mineral resource extraction would cause a temporary loss of habitat and displacement of wildlife populations until the disturbed land is reclaimed. The extent and duration of these impacts is dependent on the particular mineral development activity and its extent.

Impacts to Soil and Watershed

Alternative 1

There may be some unauthorized pedestrian traffic off the designated foot trail that could result in some soil compaction. Negligible impacts to soil and watershed are anticipated under Alternative 1 implementation.

Alternative 2

Disturbance of soil and removal of vegetation during construction would result in increased erosion and sedimentation.

Building construction and paving of roads, trails and parking lots would create increased runoff during storms, producing further erosion and sedimentation.

All soil structure in disturbed areas would be destroyed, further limiting productivity.

Adverse impacts from the sewage treatment plant are not anticipated since the plant would be designed to meet State sanitary codes.

Mitigating Measures

The impacts to soil and watershed can be reduced to short term effects by implementing the following actions.

1) Minimize surface disturbance during construction; restore disturbed areas to natural contours and reestablish native vegetation as soon as possible. Employ temporary erosion control techniques as required until restoration is complete.

2) Salvage and stockpile as much topsoil as possible. Fertilization, soil amendments and additional topsoil may be required to reestablish native vegetation on some of the disturbed areas.

3) Design control systems for runoff from buildings, roads, and parking lots, sufficient to handle 100-year storms.

Alternative 3

Negligible adverse impacts are foreseen for soil and watershed.

Alternative 4

Impacts related to the construction of the visitor facilities are the same as in Alternative 3.

Surface disturbance of soil resulting from mineral exploration and development operations would also result in increased erosion and sedimentation in the short term until reclamation is completed.

Mitigating Measures

Keep surface disturbance during facility construction or mineral exploration and development operations to a minimum, reclaim disturbed areas with native vegetation as soon as possible, and employ temporary erosion control techniques as required. Mining-related excavations which remain open in the long term may require surface water diversions, sediment catchment basins, and other erosion control techniques.

As much topsoil should be salvaged and stockpiled as possible. Fertilization, soil amendments, and additional topsoil may be required in order to reestablish native vegetation on some of the disturbed areas.

Impacts to Vegetation

Alternative 1

Impacts to the vegetation are largely positive over the long term. The removal of livestock would allow plants to complete their growth cycle each year rather than once every other year. This would increase plant vigor and ground litter, reduce soil compaction, reduce erosion and ultimately improve plant reproduction.

Alternative 2

Site development and project construction could produce short to long term damage to the vegetation community. Off-trail pedestrian traffic would result in trampling of vegetation and soil compaction. However, elimination of livestock grazing would tend to enhance vegetation as described in Alternative 1.

Alternative 3

Negligible adverse impacts are foreseen for vegetation.

Alternative 4

The impacts and mitigating measures for vegetation are similar to those described for soil and watershed.

Impacts to Livestock Grazing

Alternative 1

Grazing would be eliminated from approximately 313 acres of allotment #2078. This limitation would cause a 40 animal unit month (AUM) reduction of the existing grazing preference within the allotment. One and one-half miles of livestock fence would eliminate access to existing livestock water sources. Additionally, the current allotment fencing would have to be moved to re-equalize pasture sizes. All impacts, with the exception of loss of livestock watering sources, are slight.

Alternative 2

Grazing would be eliminated from approximately 415 acres of allotment #2078. This limitation would cause a 53 animal unit month (AUM) reduction of the existing grazing preference within the allotment. About one and one-half miles of fence would be required to exclude livestock from the area. The fencing would eliminate access to existing livestock water sources. Additionally, the current allotment fencing would have to be moved to re-equalize pasture sizes. All impacts with the exception of loss of livestock watering sources, are slight.

Mitigating Measures

Loss of water sources could be mitigated by piping water from the project into the re-fenced west pasture.

Alternative 3

Grazing would be eliminated from approximately 450 acres of allotment #2078. This limitation would cause a 57 animal unit month (AUM) reduction of the existing grazing preference within the allotment. About one and one-half miles of fence would be required to exclude livestock from the area. Additionally, the current allotment fencing would have to be moved to re-equalize pasture sizes.

Alternative 4

The same as Alternative 3.

Impacts to Mineral Resources

Alternative 1

If Alternative 1 is implemented, 75 acres of federal mineral estate would be withdrawn from entry under the mining law (see Map 4). Additionally, an area of critical environmental concern (ACEC) would be created through the proposed project area for a 1/2 mile-wide corridor along the Oregon Trail (1/4 mile on either side). Opportunities to explore for, discover and develop hitherto undiscovered, locatable mineral deposits would be lost on 75 acres including approximately 16 acres with moderate potential for the accumulation of gold and silver resources. Compared to Alternatives 2 and 3, the impacts to mineral resources under Alternative 1 are negligible. Economic impacts on mineral resources are discussed in the section on social and economic consequences.

Alternative 2

If Alternative 2 is implemented, 470 acres of federal mineral estate would be withdrawn from entry under the mining law (see Maps 6 and 10). Opportunities to explore for, discover and develop hitherto undiscovered, locatable mineral deposits would be lost on the entire 470 acres, including approximately 42 acres with high potential and 228 acres with moderate potential for the accumulation of gold and silver resources. Economic impacts on mineral resources under this alternative are discussed in the section on social and economic consequences.

Irreversible/Irretrievable Commitments of Resources

Once the proposed project is implemented and the federal mineral estate is withdrawn from entry, potentially valuable mineral resources would not be developed.

Alternative 3

If Alternative 3 is implemented, 507.5 acres of federal mineral estate would be withdrawn from entry under the mining law (refer to Map 8).

Opportunities to explore for, discover and develop hitherto undiscovered, locatable mineral deposits would be lost on 507.5 acres including approximately 38 acres with high potential and 267 acres with moderate potential for the accumulation of gold and silver resources. However, valuable mineral deposits discovered prior to the date of withdrawal would be available for development. Economic impacts on mineral resources are discussed in the section on social economic consequences.

Irreversible/Irretrievable Commitments of Resources

Once the proposed project is implemented and the federal mineral estate is withdrawn from entry, undiscovered, locatable mineral deposits would not be available for development and the potential benefits to the local and national economy would not be realized.

Alternative 4

If Alternative 4 is implemented, the adverse impacts on mineral claimants and mineral resources development would be much less than under Alternatives 2 and 3. Opportunities to explore for, discover, and develop locatable mineral deposits would continue within the project area. However, considerations for visitor safety would probably modify the timing and way in which the development would occur.

Impacts to Social and Economic Setting

Alternative 1

Tourism development in northeastern Oregon would continue to grow. The visitation at the Bicentennial Wayside near Flagstaff Hill and at the Oregon Trail Regional Museum would continue near their existing levels of 6,000 to 8,000 and 9,000 visitors per year, respectively. Greater visitation would primarily be the result of increased traffic on Interstate 84.

Mining claimants would lose most of their investment in one lode mining claim and part of their investment in 5 other lode mining claims which are partially located within the proposed withdrawal boundary for Alternative 1.

Mining claimants proposing to operate within 1/4 mile of the Oregon Trail (within the ACEC) would be required to submit a plan of operation under 43 CFR 3809 regulations rather than the more usual notice of operations. Claimants would probably be required to post a bond, adding to the cost of mining operations in the area.

Alternative 2

Benefits

Several analyses have estimated the effect of visitation at the proposed interpretive center (McPhail 1988; Ragatz 1987). The study by Ragatz Associates projected that the proposed interpretive center would draw approximately 200,000 visitors annually. This study assumed that this level of visitation would result in fifty to ninety percent of the visitors staying more than one day and spending $50 to $225 per party per day in the local area. No estimate has been made of the number of rooms needed to accommodate the projected number of visitors. These studies estimated that the center would add from 375 to 531 jobs to the local economy, an increase of 6 to 8.5 percent over existing employment in Baker County.

In addition to the the tourist expenditure driven jobs in northeastern Oregon, approximately 14 management and maintenance-related jobs would be located at the interpretive center itself.

According to the Oregon Employment Division, the conservative estimate of 375 jobs created by tourist expenditures would be as follows:

Occupational Group	Total Jobs Created
Professional/Technical	23
Manager/Officers	37
Sales Workers	43
Clerical Workers	62
Craft Workers	30
Operators	28
Service Workers	133
Labor	17
Farm Workers	2
TOTAL	375

Since most of the visitation created by the interpretive center would occur during the summer months, most of the employment generated would be seasonal rather than year-around. This could tend to increase the existing seasonal nature of employment in Baker county.

The project would also produce benefits other than jobs created by tourism related to the proposed center; it would produce other benefits for the northeastern Oregon region. These benefits, estimated by the State of Oregon Employment Division, are as follows (certain assumptions were made to derive the following figures, and further planning for the project may alter those assumptions).

1) Annual operating expenses for the visitor center, estimated to be about $600,000, would be expended primarily locally for salaries, goods, and services.

2) Applying the lowest tax rate to the estimated direct and indirect project-generated payroll (about $10,000,000) would result in an increase in income tax revenues of approximately $1,000,000.

3) Increased employment would reduce transfer payments. Payments for federally funded public assistance programs in Baker County for Food Stamps, Medicade, and Social Security Insurance would be reduced.

Costs

A possible burden could be placed on community services to provide housing, schools, water, and sewage facilities and health services. However, increased tax revenues which could be generated by this proposal would provide the financing to improve community facilities.

The value of THC's mining claims located outside of the proposed withdrawal boundary would decrease because the company would lose about half of the claim area having high potential for gold and silver. As a result, a higher grade of ore would be required on the remainder of the claims to make it financially feasible to develop the reduced volume of potential ore.

Mining claimants proposing to operate within 1/4 mile of the Oregon Trail (within the ACEC) would be required to submit a plan of operation under 43 CFR 3809 regulations rather than the more usual notice of operations. Claimants would probably be required to post a bond, adding to the cost of mining operations in the area.

In addition, the mining claimants would lose all their investment in 16 lode mining claims located within the proposed withdrawal boundary. They would also lose that portion of their investment related to sections of another 5 claims partly located within the proposed withdrawal. The major claimant, THC, Inc., would lose access to approximately half of the Flagstaff Mine's underground workings.

Potential benefits to the local and national economy from mineral extraction within the proposed project boundary would not be realized. If the claimants have "valid existing rights" and develop a mining operation, the resulting potential benefits could be similar to those identified in Alternative 4.

Alternative 3

Because Alternative 3 retains the same size, scope and approximate location for the interpretive center as Alternative 2, the economic and social impacts to Baker County and Northeast Oregon are virtually the same as those identified for Alternative 2.

The primary difference between Alternative 3 and Alternative 2 is that the mining claimants would lose their investment in one additional lode mining claim but only parts of four others (one less than Alternative 2). The claimants would retain more of the underground workings at the Flagstaff Mine. The potential loss in benefits to the local and national economy would be similar to those addressed in Alternative 2.

Potential benefits to the local and national economy from mineral extraction within the proposed project boundary would not be realized. If the claimants have "valid existing rights" and develop a mining operation, the resulting potential benefits could be similar to those identified in Alternative 4.

Alternative 4

Benefits

Alternative 4 proposes to build an interpretive center, of the same size and scope as Alternative 3. The main difference is that Alternative 4 does not propose to withdraw from mineral entry under the mining laws, thus opportunities to explore for, discover and develop locatable mineral deposits would continue within the project area. To assist in the determination of the possible benefits, the BLM has completed an analysis of a possible mineral scenario (see Appendix H). It should be noted that the chances of any mining operation occurring at the site range between 1 in 5 and 1 in 50, based on professional judgment and experience in observing the success of similar properties. These potential benefits which could result from the mineral development are as follows.

- A mineral development scenario for the Flagstaff Hill Mine chosen to be generally consistent with applicable mineral deposit models (see Appendix H), suggests that an open pit heap leach recovery operation could extract upwards to six million tons of ore over a ten year mine life. The mine and associated mill could add between 95 and 162 direct jobs with a annual payroll of $3,400,000 to $5,800,000 with a total capitilization of between $25,000,000 and $33,000,000. In addition, assuming a secondary employment multiplier in the range of 1.0 to 2.0, the mine and mill could result in from 95 to 324 additional jobs to the local economy.

- Similarly, for underground recovery and cyanide leach milling, the scenario suggests that 400,000 tons of ore produced over 10 years would employ 71 mine and mill workers with an annual payroll of $2.6 million using the same assumptions for direct wages, fringe benefits, and shifts per year with a total capitalization of approximately $12,000,000. For the underground mine and mill the potential secondary employment could result in from 71 to 142 additional jobs to the local economy.

- There are several general characteristics of employment in mining operations. It tends to fluctuate with the changes in the value of the minerals involved and lasts only as long as the mine produces ore.

The potential mining project could produce benefits other than jobs, which would add to those resulting from the interpretive center. Those benefits are estimated as follows.

1) Non-labor expenditures for services and goods which could range from $1,000,000 to $5,000,000 annually.

2) By applying the lowest taxrate to the estimated direct project-generated payroll (from $2,600,000 to $5,800,000) would result in an increase in income tax revenues of approximately $260,000 to $580,000. This does not include the income tax revenues from the increase in indirect jobs.

3) If a producible mineral resource exists, there would be an increase in property tax revenues resulting from taxable property values including; mine and mill properties values (from $12,000,000 to $33,000,000) and the value of the mineral reserves.

The economic benefits resulting exclusively from the visitation at the interpretive center are expected to be less than that identified in Alternative 2. The amount of the reduction is difficult to estimate since there are no studies available which analyze the impact of a mining operation on visitor use. One can assume that it would depend upon the location and extent of the surface disturbance and the resulting visual and audible impacts of an ongoing mining operation. Although mining operations would provide an additional interpretive opportunity which could be developed, renewed mining activity would detract from the Oregon Trail interpretive theme (see Impacts to Historic Resources, Historic Setting under Alternative 3, and Impacts to Recreation Resources under Alternative 4). If mineral exploration and development becomes an ongoing and intermittent activity, much as it has been since 1894, this impact could occur and result in a reduction in the economic benefits resulting exclusively from the interpretive center.

In summary, while mining operations could lessen the economic benefits gained from the proposed interpretive center project for the life to the mine, the resulting sum of the two economic development projects could exceed the benefits from either proposal.

Costs

The adverse impacts on the claimants and mineral resource development would be limited. An Area of Critical Environmental Concern (ACEC) would be designated in a 1/2 mile wide corridor along the Oregon Trail through the proposed project area.

Mining claimants proposing to operate within the project area would be required to submit a plan of operation under 43 CFR 3809 regulations rather than a notice of operations. The operator would probably be required to provide a bond. The bonding requirement would add to the cost of operations.

Summary of Impacts

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Historic Resources Oregon Trail	a. Long term protection of 1 mile of the Oregon Trail. b. Localized short term impact during foot path construction. c. Negligible impact from foot traffic. d. Existing developments would persist as intrusions (power line, Bicentennial Wayside, stock pond).	a. Provides long term protection of historic setting and Trail ruts from mining impacts. b. Historic setting dedicated to historical interpretation. c. Localized, short term impacts to the historic setting during rehabilitation of stock pond and jeep road; during construction phases. d. Slightly less than 1 mile of the Oregon Trail preserved and protected. e. About 50 feet of Oregon Trail destroyed by access road construction. f. Visitor facilities visible from parts of the Trail; historic setting integrity diminished. g. Increased hiking on Oregon Trail ruts could result in damage to the Trail. h. Powerline would persist as an intrusion.	a. Same as (a) Alternative 2. b. Same as (b) in Alternative 2. c Same as (c) in Alternative 2. d. One mile of the Oregon Trail preserved and protected. e. Rehabilitation of Trail near stock pond. f. Localized short-term impacts to historic setting, if mining occurs. g. Vegetation rehabilitation and relocating powerline would enhance integrity of setting. h. Visitor facilities partially visible but subdued. i. Relocations of monuments would enhance setting. j. Overall impact not adverse.	a. No long term protection of historic setting from potential mining impacts. b. About 1/8 mile of ruts could be irretrievably lost if mining operations take place. c. Same as (c) in Alternative 2. d. Less than 1 mile of the Oregon Trail preserved and protected. e. Same as (e) in Alternative 3. f. Historic setting dedicated to mining as the dominant land use. g. Same as (g) in Alternative 3. h. Same as (h) in Alternative 3. i. Same as (i) in Alternative 3. j. Improvements in historic setting overshadowed by potential mining impacts.
Other Historic Properties	a. No additional impacts to monuments, Eagle Valley Railroad grade, Flagstaff Mine, Auburn-Burnt River Wagon Road.	a. Potential for vandalism to values at Flagstaff Mine, and the stone feature. b. Portions of Eagle Valley Railroad grade impacted by foot trail construction.	a. Negligible impacts to Auburn-Burnt River Valley Wagon Road grade. b. Same as (a) in Alternative 2. c. Same as (b) in Alternative 2.	a. Impacts approximately the same as Alternative 3.
Recreation Resources	a. Enhances wayside kiosk and develops new foot trail. b. Little increase in visitation. c. Retains hunting recreation use. d. Interpretation value to site improved slightly. e. No substantial change in viewshed management.	a. Area dedicated to single use: recreation and historical interpretation. b. Visitation to area could increase from 8,000 to 200,000 per year. c. Eliminates hunting opportunities on proposed site.	a. Impacts approximately the same as Alternative 2. b. Eliminates off road vehicle travel except for authorized uses.	a. Area could be dedicated to mining as a dominant use. b. Visitation would increase above current annual level but mining impacts may reduce visitation if mineral development would occur. c. Same as (c) in Alternative 2.

Summary of Impacts (continued)

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Recreation Resources (Continued)	f. No substantial change in viewshed.	d. Vastly expanded opportunity to interpret panoramic view, the pioneer experience of the Oregon Trail, and historic mining. e. Develops new critical viewpoints. f. Substantially increases size of the managed viewshed (16,000 acres).		d. Opportunity to interpret the pioneer experience potentially adversely impacted. e. Potential conflict between visual impacts of mining and VRM Class III management objectives. f. May provide an opportunity for greater interpretation of modern mining operations. g. Same as (e) in Alternative 2. h. Same as (f) in Alternative 2.
Visitor Safety	a. No change of safety aspects for Flagstaff Mine vicinity, highway access, Kiwanis Monument, cattle drives up Highway 86. b. Slightly increases hazard of wildfire to visitor safety, without improving fire protection on site.	a. Traffic hazard near Kiwanis Monument would be increased. b. Brings visitors near Flagstaff Mine but provides safety fencing. c. Greater traffic congestion but slow-down, speed-up lanes provided. d. Short term hazard increased for semi-annual cattle drives on Highway 86. e. Substantially increased hazard of wildfire to visitor safety; abatement measures could be implemented. f. Livestock at pioneer encampment could potentially injure employees and visitors.	a. Same as Alternative 2 except: proposes to move Kiwanis Monument, therefore removing a potential highway hazard; minimizes hazards from cattle drives by cooperation with operators; fire management plan reduces hazard from wildfire; eliminates livestock at pioneer encampment.	a. Same as Alternative 3, except that this alternative could increase the potential for accidental injury as a result of active mining within the site.
Wildlife	a. Minimal impacts on all wildlife species presently found on the site.	a. Loss of 35 acres of wildlife habitat. b. Activities would displace mule deer, pronghorn antelope, and sage grouse.	a. Impacts approximately the same as Alternative 2.	a. Impacts approximately the same as Alternative 2.

Summary of Impacts (continued)

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Wildlife (Continued)		c. Wastewater facilities would provide habitat for some shorebirds, waterfowl, sage grouse, mule deer, and pronghorn antelope. d. Site would provide habitat niches for some non-game species.		
Soil and Watershed	a. Negligible impact, some localized soil compaction.	a. Construction phases would increase erosion and sedimentation (impacts negligible if mitigating measures adopted). b. Destruction of soil structure further limiting soil productivity in construction areas.	a. Impacts same as (a) and (b) in Alternative 2; project design features would provide some mitigation.	a. Impacts same as (a) and (b) in Alternative 2, plus impacts from potential mining operations (until reclamation complete).
Vegetation	a. Enhance vegetation due to removal of livestock grazing.	a. Short term damage to vegetation resulting from construction of facilities. b. Enhance vegetation due to removal of livestock grazing.	a. Short term damage to vegetation resulting from construction of facilities and rehabilitation of existing intrusions. b. Same as (b) in Alternative 2.	a. Short term damage to vegetation resulting from construction of facilities, rehabilitation of existing intrusions, and potential mineral exploration. b. Same as (b) in Alternative 2.
Livestock Grazing	a. Grazing in allotment #2078 would be reduced by 40 AUMs. b. Access to existing water sources would be eliminated.	a. Grazing in allotment #2078 would be reduced by 53 AUMs b. Access to existing water sources would be eliminated.	a. Impacts approximately the same as Alternative 2.	a. Impacts approximately the same as Alternative 3.
Mineral Resources	a. Opportunity to explore for, discover, and develop hitherto undiscovered, locatable mineral deposits would be lost on 75 acres, including 16 acres with moderate potential for accumulation of gold and silver resources. b. Compared to Alternative 2 and 3 the impacts are negligible.	a. Opportunity to explore for, discover, and develop hitherto undiscovered, locatable mineral deposits would be lost on 470 acres, including 42 acres with high potential and 228 acres with moderate potential for accumulation of gold and silver resources. b. Valuable mineral deposits discovered prior to withdrawal would be available for development.	a. Opportunity to explore for, discover, and develop hitherto undiscovered, locatable mineral deposits would be lost on 507.5 acres, including 38 acres with high potential and 267 acres with moderate potential for accumulation of gold and silver resources. b. Same as (b) Alternative 2.	a. Opportunity to explore for, discover, and develop locatable mineral deposits would continue within the project area.

Summary of Impacts (continued)

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Social and Economic Setting	a. No significant impact on the local economy or community services. Mining claimants would lose most of their investment in one lode mining claim and part of their investment in five other lode claims.	a. Estimated economic benefits from the proposed interpretive center include increased sales of goods and services, increased tax revenues, an annual operating budget of $600,000 and an increase of from 389 to 545 local jobs. b. The proposal could increase the existing seasonal nature of employment in Baker. c. A potential burden on community services would probably be offset by potential increases in tax revenues. d. The mining claimants would lose all their investment in sixteen lode mining claims and part investment in five claims. THC, Inc., would lose approximately half of the underground workings of the Flagstaff Mine and half of the claim area having high potential for gold and silver. e. Potential benefits to the local and national economy from potential mineral extraction within the project boundary would not be realized (reference Alternative 4(b)). f. Potential benefits from mining as identified in Alternative 4 may be realized if claimants have valid existing rights (reference Alternative 4(b)).	a. Estimated economic benefits and potential burdens are the same as Alternative 2. The adverse economic impact on the mining claimants is also approximately the same as under Alternative 2. b. Same as (c) Alternative 2. c. Same as (e) Alternative 2. d. Same as (f) Alternative 2.	a. Potential mining activity within the proposed project area could reduce the annual visitations which would in turn reduce anticipated economic benefits. b. Benefits to the local and national economy from potential mineral extraction within the project area could be realized. Estimated benefits not realized may include: nonlabor expenditures between $1-5 million annually, and an increase of 71-324 local jobs from intermittent and short-term employment.

Chapter 5 Coordination and Distribution

Public Involvement

The draft EA was released to the public on August 30, 1988 and open to comment until September 30, 1988. Copies of the draft EA were also distributed to several federal agencies, state and local governments, special interest groups, and individuals. Also, copies of the draft EA were available for review at the Vale District and the Baker Resource Area offices.

A total of thirty-three letters were received in response to the draft EA. Copies of the letters and notes from the interdisciplinary meeting on October 12, 1988, where all comments were reviewed and considered, are available for review in the Baker Resource Area office.

Consultation and coordination also took place with several agencies, organizations, adjacent landowners, and mining claimants.

Response to Written Comments

None of the comment letters we received stated that they were opposed to the proposed project. In fact, of all the letters that supported a specific alternative, only one suggested an alternative other than Alternative 3, the Preferred Alternative, although several letters stated concerns and suggested modifications to the preferred alternative.

Six broad concerns were raised by the reviewers (these six concerns do not attempt to cover each and every issue raised, but rather a summary of the major concerns). These concerns and responses to them are presented below.

1) Interpretive Design Concerns. Suggestions were made for improvements in the interpretive features of the proposal (examples include; more emphasis on the Auburn-Burnt River Road, allowing visitors to stand in the trail and step into history, interpret the geologic history as it relates the the Oregon Trail, etc.).

Response. These suggestions will be considered within the development of the Interpretive Plan and subsequent prospectus for the interpretive design contract.

2) Adjacent Landowner Concerns. The adjacent landowners, William Peyron, Pete Peyron, and Liz Peyron, expressed concerns regarding recommended county zoning changes, loss in AUMs from their grazing allotment, restrictions on movement of livestock, disturbance to livestock grazing, and increases in fire hazard, trespass, vandalism, and, subsequently, liability insurance. Although the Peyrons have concerns they support the proposed Interpretive Center concept.

Response. The BLM has met with the Peyrons to better understand and respond to their concerns. A program of educational and enforcement measures to reduce potential impacts of trespass and vandalism would be implemented. A fire management plan would be developed to reduce risks from wildfire on lands in and adjacent to the project. Negotiations are ongoing to resolve further concerns and acquire easements on their ownership within the project boundaries.

3) Determination of no adverse effect. The Oregon State Historic Preservation office concurs that the proposed project, in concept, would have no adverse effect on historic properties eligible for inclusion in the National Register of Historic Places.

Response. The BLM has agreed that the determination of no adverse effect is dependent upon final development plans being mutually acceptable to the Oregon State Historic Preservation Office and the BLM.

4) Mineral Resources Concerns. Letters were received from mining interests and federal agencies involved in mineral issues that recommended that the BLM should proceed with an economic analysis of the potential benefits of a mining operation. In addition, it was suggested that Alternatives 2 and 3 were excessively rigid and should be designed, or an additional alternative should be considered, that would not conflict with a mining operation within the project boundaries.

Response. The BLM has developed a possible mining scenario and has included the resulting economic analysis in this final EA. In this final EA we have tried to make it clear that under any of the alternatives we are not precluding that mining would occur under "valid existing rights". Also, the BLM is currently negotiating with the existing mining claimants to consider mutually-agreeable mitigating measures for the possible exploration and development of a mining operation.

5) Visitation Estimate Concerns. Several letters commented that the proposed visitation figures seem to be too optimistic compared with similar facilities.

Response. The BLM has assigned a task force to review the potential visitation analysis to determine the appropriate scope of the proposed Interpretive Center.

6) Impacts to the Oregon Trail. The National Park Service listed several elements to the proposal that need to be evaluated in light of the concept of a "protected trail corridor" as addressed in the Oregon Trail Management Plan. The elements of concern are: the living history encampment, with its location adjacent to the trail, associated parking lot, and restroom facilities; and the proposed foot paths and bridges, which parallel and cross the Oregon Trail. In addition, they suggest that a more in-depth visual analysis with simulation of alternative designs would assist in evaluating the potential visual impacts of the proposal.

Response. In response to these concerns, the Preferred Alternative has been modified. The living history encampment has been relocated to a position north of the Interpretive Center, on the ridge and well above and out of sight of the Oregon Trail. This eliminates the visual intrusion of the associated parking lot, restrooms and loop road. The NPS will also be involved in the Interpretive Design Team which will develop the Interpretive Plan and analyze the final location of the proposed foot paths. To address concerns for minimizing visual impacts to the historic setting, visual simulation of several alternative design concepts would be reviewed, prior to selecting a final design concept, in cooperation with the State Historic Preservation Office and National Park Service.

7) Visitation Projections. Several comments were received which stated that the estimate of annual visitation seems higher than what would be expected.

Response. The BLM is performing an independent analysis of the projected annual visitation. This information will be used in the design of the interpretive center to assure that it is built to an appropriate size and scape.

The following is a list of comment letters received.

1. Wallowa Whitman National Forest, USFS
2. Brian Cole, Baker City/County Economic Development Dept.
3. Lawrence E. Nielsen, Ph.D.
4. D. W. Powers III, Oregon State Preservation Office
5. Arthur F. Reiff, City Manager, Baker
6. William R. Peyron, Peyron Ranch, Inc.
7. Robert Fink, Chief, Western Division of Project Review, National Advisory Council On Historic Preservation
8. Oregon Trail Interpretive Center Steering Committee
9. W.R. Williams
10. Jan Alexander
11. Steven H. Corey, Oregon Trail Advisory Council
12. Brian G. White, Hecla Mining Company
13. Richard W. Acherman
14. Promotions Committee of Historic Baker City, Inc.
15. Baker County Planning Commission
16. Shab Levy Exhibits
17. Department of Environmental Quality, State of Oregon
18. Bob Rennells, Oregon-California Trail Association
19. Karen Buck, Oregon-California Trail Association
20. Gregory Franzwa
21. Wayne W. Eades, Misty Mountain Mining and Milling, Inc.
22. Sid Johnson, Chairman, Site Development Subcommittee, Oregon Trail Interpretive Center Steering Committee
23. Laurene Chapman, Baker Business & Professional Women
24. Baker County Visitor & Convention Bureau
25. Julie Kelso, Best Western Sunridge Inn
26. Ben Rice, Sidco Industries, Kopper Kitchen
27. James F. Devine, Geological Survey, U.S. Dept. of Interior
28. THC, Incorporated
29. Dennis Ditmanson, Superintendent, Custer Battlefield National Monument, NPS
30. Bureau of Mines, U.S. Dept. of Interior
31. Neil Goldschmidt, Governor, State of Oregon
32. Richard L. Winters, Associate Regional Director, Recreation Resources and Professional Services, Pacific Northwest Region, National Park
33. Shab Levy Exhibits

List of Agencies, Organizations, and Officials To Whom Copies of the EA Are Sent

Comments on the draft EA were requested form the following agencies and groups.

Government Agencies

Federal

Bureau of Indian Affairs
U.S. Bureau of Mines
U.S. Bureau of Reclamation
U.S. Environmental Protection Agency
USDA Forest Service
U.S. Geological Service
National Park Service
USDA Soil Conservation Service
Bureau of Land Management - Idaho State Office
Bureau of Land Management - Boise District

State

Governor, State of Oregon
Idaho State Parks and Recreation Department
Nevada Division of Mineral Resources
Oregon Department of Fish and Wildlife
Oregon Department of Geology and Mineral Resources
Oregon Department of Recreation
Oregon State Engineer
Oregon Executive Department, Clearinghouse
Oregon Trail Advisory Council
Oregon State Historic Preservation Office
Oregon State Department of Transportation

Washington State Division of Geology
Washington State Parks and Recreation Commission

County and City

Baker Board of County Commissioners
Baker County Planning Commission
City of Echo
Grant County Commissioners
Malheur County Commissioners
Malheur County Planning Director
Mayor of City of Baker
Mayor of Haines
Mayor of Halfway
Mayor of La Grande
Mayor of Milton-Freewater
Mayor of Pendleton
Mayor of Richland
Mayor of Walla Walla
Morrow County Commissioners
Umatilla Board of County Commissioners
Union County Commissioners
Wallowa County Commissioners

Congressional

U.S. Senator Mark Hatfield, Oregon
U.S. Senator Robert Packwood, Oregon

U.S. Representative Les Au Coin, Oregon
U.S. Representative Peter De Fazio, Oregon
U.S. Representative Denny Smith, Oregon
U.S. Representative Robert Smith, Oregon
U.S. Representative Ron Wyden, Oregon

Local Government

Confederated Tribes of the Umatilla Indian Reservation
Nez Perce Tribal Executive Committee
Burns Paiute Reservation

Groups and Organizations

Advisory Council on Historic Preservation
AMAX
American Mining Congress
Anaconda Company
The Anschutz Corp.
Arco
Asarco, Inc.
Atlantic Richfield Corp.
The Audubon Society
Baker County Cattleman's Association
Baker County Chamber of Commerce
Baker County Historical Society
Baker County Museum Commission
Big Turtle Mines
Blue Mountain Intergovernmental Council
Boy Scouts of America
Burlington Northern, Inc.
Cascadia Exploration Corp.
Charles M. Colton & Son
Chevron Resources Co.
Chevron USA, Inc.
Coconino Community Guidance Center
Cominco American
Committee for Idaho's High Desert
Danner Mines, Inc.
Davis Ranch and Cattle Co.
Eagle Picher Industries, Inc.
Earth First!
Earth Power, Inc.
East Central Oregon Association of Counties
Eastern Oregon Mining Association

Exploration Ventures Co.
Fluid Energy Corp.
Friends of the Oregon Desert
Hecla Mining Co.
Hells Canyon Guide Service
Historic Baker City, Inc.
Homestake Mining Co.
Idaho Archaeological Society
Idaho Historical Society
Idaho Outfitters and Guides Association, Inc.
Idaho Power
Independent Petroleum Association of America
Izaak Walton League of America
Led Mining Co., Inc.
Lewis and Clark College
Maintain Eastern Oregon Wilderness
Malheur Country Historical Society
Manville Products Corp.
MAZAMA Conservation Committee
Milton-Freewater Chamber of Commerce
Minatome Corporation
Minerals Exploration Coalition
National Wildlife Federation
Native Plant Society of Oregon
Natural Resources Defense Council
The Nature Conservancy
Northwest Mining Association
Northwest Outward Bound
Northwestern University
Occidental Minerals Corp.
1000 Friends of Oregon
Oregon-California Trails Association
Oregon Cattleman's Association
Oregon Council of Rock and Mineral Clubs
Oregon Environmental Council
Oregon Farm Bureau Federation
Oregon Historical Society
Oregon Hunters Association
Oregon Mine Operators
Oregon Mining Association
Oregon Museum of Science and Industry
Oregon Natural Resources Council
Oregon Park & Recreation Society
Oregon Trail Tourism Council
Oregon Wildlife Federation
Pacific Northwest 4-Wheel Drive Clubs
Pacific Power and Light Company
Parklands Expeditions
Pendleton Chamber of Commerce
Phillips Uranium Corp.
Portland Chamber of Commerce
Portland State University Library
Public Lands Council
Public Lands Institute
Rocky Mountain Oil and Gas Association
Sagecountry Alliance for a Good Environment
Sierra Club
Silver King Mines
THC, Inc.
Union County Historical Society
Union Oil Company of California
Wild and Scenic, Inc.
Wildlife Management Institute
Wilderness Society
Williams Farm, Inc.
The Vale District Multiple-Use Advisory Council

Approximately 100 additional individuals and organizations who have expressed an interest in management of public lands in the planning area were also sent copies of the EA. Included in this group are grazing lessees within the planning area, adjacent property owners, various educational institutions, and radio, newspaper and television media.

Copies of the final EA and ROD will be sent to each person, organization, or agency commenting on or receiving a copy of the draft document.

Chapter 6 List of Preparers, References, Glossary

List of Preparers

Although individuals have primary responsibility for preparing sections of this environmental assessment, the document itself is an interdisciplinary team effort. An internal review of the document was conducted during the preparation. Specialists at the district level and the state level of the Bureau of Land Management reviewed the analysis and supplied information. Contributions by individuals in the preparation of the document may be subject to revision by other BLM specialists and by management staff members during the internal review process.

Name	Primary Responsibility	Discipline	Related Professional Experience
Beckham, Stephen	Historical Resources	Historian	B.A. History, Univ. of Oregon; M.A. History, UCLA; Ph.D. History, UCLA; Professor of History, Lewis and Clark College, 20 yrs.; BLM, 4 yrs.
Cole, Brian	Economics	Economic Development Specialist	B.S. Business Admin., Oregon State Univ.; Masters of Management, Willamette Univ.; City and County, Baker, 1 yr.
Hubbard, Gerard	Public Affairs	Public Affairs Specialist	B.S. Forest Sciences, Univ. of Washington; M.S. Forestry, Penn. State Univ.; BLM, 11 yrs.
Hunter, Howard	EA Team Leader	Forest Planner	B.S. Forest Mgmt., Recreation, Humboldt State Univ.; BLM, 10 yrs.
Kniesel, Matthias	Wildlife	Wildlife Biologist	B.S., Biology, Univ. of Illinois, Chicago; M.S. Natural Resource Admin, Colorado State Univ.; BLM, 14 yrs.
Kuhns, Ralph R., Jr.	Minerals/Energy	Geologist	B.A.S. Geology, West. Washington State College; Grad. School, Univ. of Montana; Private Industry, 4 yrs.; BLM, 11 yrs.
Meyer, Gerald	Recreation, Visual Quality	Recreation Specialist	B.A. Recreation Admin., California State Univ., Chico; BLM, 17 yrs.
Ledger, James	Lands and Realty, Technical Coordinator	Realty Specialist	B.S. Forest Mgmt., Univ. of Michigan; BLM, 13 yrs.
Oman, Mary	Archaeology, Historical Resources, Paleontology	Archaeologist	B.A. Anthropology, Oregon State Univ.; B.A. History, Oregon State Univ.; M.A. Anthropology , Univ. of Missouri; BLM, 5 yrs.
Shelton, Dave	Architecture	Architect	B.A. Architecture, Univ. of Oregon; Private, 10 yrs.; BLM, 8 yrs.
Taylor, Larry A.	Livestock Grazing, Vegetation	Supervisory Range Conservationist	B.S. Range/Forest Mgmt., Colorado State Univ.; BLM, 21 yrs.
Woodward, Paula	Writer/Editor	Professional Writer	B.A. Communications, Michigan State Univ.; M.S. Film Making, Univ. of Southern California; Air Force, Public Affairs, 22 yrs.

References

Baker County Court. August, 1987. National Historic Oregon Trail Proposed Flagstaff Hill National Monument Preliminary Site Plan.

Beckham, Stephen Dow. 1988. Proposed National Historic Oregon Trail Interpretive Center at Flagstaff Hill. Determination of No Adverse Effect, Section 106 Compliance, National Historic Preservation Act of 1966 (as amended).

Brooks, H.C. 1979. Plate Tectonics and the Geologic History of the Blue Mountains, Oregon Geology, Vol. 41, No. 5, p. 71-80.

Brooks, H.C. and J.R. McIntyre. 1977. Reconnaissance Geologic Map of the Virtue Flat Quadrangle, Baker County, Oregon. Oregon Department of Geology and Mining Industries, Open-File Report 0-77-05.

Bureau of Land Management. 1982. Baker Management Framework Plan, Baker Resource Area, Vale District.

Bureau of Land Management. 1986. BLM Manual 8410-1, Visual Resource Inventory.

Bureau of Land Management. 1986. Draft Baker Resource Management Plan, Environmental Impact Statement, Baker Resource Area, Vale District.

Bureau of Land Management. 1987. Vale District Draft Oregon Trail Management Plan.

Bureau of Land Management. 1986. Proposed Baker Resource Management Plan, Environmental Impact Statement, Baker Resource Area, Vale District.

City of Baker. 1988. Baker, Oregon 1988-1989 Community and Economic Profile, Economic Development Department.

Fredericksen, R.S. and G. Fernette. 1983. Phase 1 Geology, Energy, and Mineral (GEM), Oregon-Idaho, Including the McGraw Creek (6-1), Homestead (6-2), and Sheep Mountain (6-3), Wilderness Study Areas. Unpublished Report prepared for the Bureau of Land Management by WGM, Inc. under contract No. YA-553-CT2-1039. 53 p.

Gilluly, J., J.C. Reed, and C.F. Park, Jr. 1933. Some Mining Districts of Eastern Oregon. U.S. Geological Survey Bulletin 846-A, Contributions to Economic Geology, Part 1. 140 p.

Haines, Aubrey. 1973. Historic Resource Study: Historic Sites Along the Oregon Trial. Denver Service Center, Historic Preservation Team, National Park Service, Denver, Colorado.

McPhail, D.A., and Associates. 1988. Analysis: Oregon Trail National Monument & Interpretive Center at Flagstaff Hill, 25 Jan. 1988.

National Park Service. 1981. Comprehensive Management and Use Plan: Oregon National Historic Trail. U.S. Department of the Interior.

Radtke, Hans D. 1987. Memorandum. June 1, 1987; Economic Impacts of the Oregon Trail Monument.

Ragatz Associates. January 1987. Analysis of the Merit for Destination Resort Development in Eastern Oregon.

Rimal, D.N. 1988. Mineral Potential of the Flagstaff Hill Area, Baker County, Oregon. Unpublished Report, Bureau of Land Mangement, Oregon State Office, Portland, Oregon. 23 p.

State of Oregon. 1987. Memorandum, June 8, 1987; Economic Impact Comparisons for the Oregon Trail Project.

State of Oregon. 1972. Oregon State Comprehensive Outdoor Recreation Plan, Salem, Oregon.

U.S. Soil Conservation Service. 1988. Draft Soil Survey for Baker County, Oregon. Unpublished Report, U.S. Department of Agriculture.

Glossary of Terms

Allotment – An area of land where one or more livestock operators graze their livestock. Allotments generally consist of public lands administered by the BLM, but may include other federally-managed, state owned or private lands. An allotment may include one or more separate pastures. Livestock numbers and periods of use are specified for each allotment where BLM controls use.

Animal Unit Month (AUM) – A standardized measurement of the amount of forage (about 800 pounds of forage) required to sustain one cow with one calf, or their equivalent, for one month.

Archaeological Site – Geographic locale containing structures, artifacts, material remains, and/or other evidence of past human activity.

Area of Critical Environmental Concern (ACEC) – Places within the public lands where special management attention is required (when such areas are developed or where no development is required) to protect and prevent irreparable damage to important historical, cultural or visual values, fish and wildlife resources, other natural systems or processes, or to protect life and safety from natural hazards.

Area of Critical Mineral Potential (ACMP) – An area nominated by the public as having mineral potential that is important to the local, regional, or national economy or that could become important in the future. These nominations are used by BLM to reevaluate areas under existing or "de facto" withdrawals (from mineral entry).

Compaction – The process of packing firmly and closely together; the state of being so packed, (e.g., mechanical compaction of soil by livestock or vehicular activity). Soil compaction results from particles being pressed together so that the volume of soil is reduced. It is influenced by the physical properties of the soil, moisture content, and the type and amount of compactive effort.

Code of Federal Regulations – The Code of Federal Regulations (CFR) is a codification, by subject, of all regulations of the Federal Register in force at a particular date. The CFR consists of 50 titles arranged by subject matter with an index volume. Every year each title is brought up-to-date with all the regulations in force at the time of publication.

Critical Observer Point(s)– The most critical point(s) from which to view a specific object or panorama, considering: the number of viewers, the length of time the project is in view, etc.

Cultural Resources – Fragile and nonrenewable elements of the environment including archaeological remains (evidence of prehistoric or historic human activities) and the sociocultural values traditionally held important by ethnic groups (sacred places, traditionally utilized raw materials, etc.).

Cultural Site – Any location that includes prehistoric and/or historic evidence of human use, or that has important sociocultural value.

Design Feature – Methods or procedures which are included in the project design to reduce or lessen the impacts of an action.

Discovery – "The Act of May 10, 1872 (30 USC 22) provides that: ... all valuable mineral deposits in lands belonging to the United States ... shall be free and open to exploration and purchase....

. . . Although the statutes do not prescribe a test for determining what constitutes a discovery of a valuable mineral deposit, the Department and the courts have established a test through almost a century of decisions. These decisions seem to assume that Congress intended that *"valuable mineral deposits"* be valuable in an economic sense or could be worked as a paying mine. A profitable mining operation has always been considered as the best evidence of the discovery of a valuable mineral deposit."

End Haul – A technique in road building in which excavated material is loaded into trucks and removed to a disposal area.

Environmental Assessment (EA) – A systematic environmental analysis of site-specific activities. An EA is used to determine whether such activities would significantly affect the human environment and whether an environmental impact statement is required.

Entry – An application to acquire title to public lands.

Exchange – A transaction in which the Federal Government receives land or interests in lands in exchange for other land or interests in land.

Exploration – The work of investigating a mineral deposit to determine by geological surveys, geophysical surveys, geochemical surveys, boreholes, pits and underground workings if it is feasible to mine. Exploration is undertaken to gain knowledge of the size, shape, position, characteristics and value of the deposit.

Endangered Species – A plant or animal species whose prospects for survival or reproduction are in immediate danger as designated by the Secretary of the Interior and as further defined by the Endangered Species Act of 1973, as amended.

Environmental Impact Statement (EIS) – A formal document to be filed with the Environmental Protection Agency that considers significant environmental impacts expected from implementation of federal actions.

Erosion – Detachment and movement of soil or rock fragments by water, wind, ice or gravity.

Federal Land Policy and Management Act of 1976 (FLPMA) – Public Law 94-579 of October 21, 1976, often referred to as the BLM 'Organic Act,' which provides the majority of BLM legislated authority, direction, policy and basic guidance for management.

Finding of No Significant Impact (FONSI) – A decision document that states that the action that is being assessed will not cause impacts of such a nature that an EIS is necessary.

Habitat – A specific set of physical conditions that surround a species group or a large community. In wildlife management, the major constituents of habitat are considered to be food, water, cover and living space.

High Potential – High potential for accumulation of mineral resources is indicated by the geologic environment, the inferred geologic processes, the reported mineral occurrences and/or valid geochemical/geophysical anomaly, and the known mines or deposits of the vicinity.

Historic Property – Any prehistoric or historic district, site, building, structure or object included in, or eligible for inclusion in, the National Register.

Historic Setting – As used in this document, the foreground landscape seen from vantage points on the Oregon Trail.

Impact – A spatial or temporal change in the human environment caused by man. The change should be (1) perceptible, (2) measurable and (3) relatable through a change agent to a management activity or alternative.

Irreversible/Irretrievable Commitment of Resources – Resources are dedicated, impacted or affected so that they can neither be recovered nor returned to their original state.

Issue – A subject or question of widespread public discussion or interest regarding management of public lands.

Kiosk – A roofed, open air structure that displays written or graphic material for public viewing.

Leasable Minerals – Minerals subject to lease by the Federal Government, including oil, gas and coal.

Locatable Minerals – Generally the metallic minerals subject to development specified in the General Mining Law of 1872; within the northern Oregon area. Locatable minerals include gold, silver, base metal minerals, cement grade limestone, etc.

Location – Perfecting the right to a mining claim by discovery of a valuable mineral, monumenting the corners.

Lode Claim – A mining claim on public lands which contains valuable minerals occurring in a vein or lode. Lode mining claims may be located upon discovery of a vein or lode "of quartz or other rock in place bearing gold, silver, cinnabar, lead, tin, copper or other valuable deposits" (30 USC S23). A lode claim shall not exceed 1,500 feet in length along the course of the vein or lode. Also a claim must not extend more than 300 feet on each side of the middle of the vein at the surface.

Long Term – More than 10 years.

Management Framework Plan (MFP) – A Bureau of Land Management land use plan that established coordinated land use allocations for all resource and support activities for a specific land area within a BLM district. It also establishes objectives and constraints for each resource and support activity and provides data for consideration in program planning. (This process has been replaced by the Resource Management Plan process).

Mineral – Inorganic substance, occurring naturally, with characteristics and economic uses that bring it within the purview of the mineral laws; a substance that may be obtained under applicable laws from public lands by purchase, lease or preemptive entry.

Mineral Claimant – An individual, association, corporation or government that claims mineral rights or title in the public lands.

Mineral Estate – Mineral ownership in, on, or under a described tract of land.

Mineral Potential – In the BLM classification system potential refers to potential for the presence (occurrence) of a concentration of one or more energy and/or mineral resources. It does not refer to or imply potential for development and/or extraction of the mineral resource(s). It does not imply that the potential concentration is or may be economic, (that is, could be extracted profitably).

Mining – The extraction of ore.

Mining Claim – A claim in which an individual, by the act of valid location under the mining laws, has obtained a right to remove and extract minerals from the land, but where full title has not been acquired from the U.S. Government.

Mining Location – A mining claim on the public lands.

Mitigation Measures – Methods or procedures which would reduce or lessen the impacts of an action.

Moderate Potential – Moderate potential for accumulation of mineral resources is indicated by the geologic environment, the inferred geologic processes, the reported mineral occurrences, or valid geochemical/geophysical anomaly.

Multiple Use – The harmonious use of land for more than one purpose, not necessarily the combination of uses that will yield the highest economic return.

National Environmental Policy Act of 1969 (NEPA) – An act of Congress that sets forth goals and general guidelines for Federal agencies to follow in assessing the environmental impacts of agency actions.

National Park Service (NPS) – An agency of the Department of Interior that manages the system of national parks and monuments.

National Register of Historic Places (NRHP) – A register of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, and culture established by the Historic Preservation Act of 1966 and maintained by the Secretary of the Interior.

Obelisk – A structure, usually made of stone, that is four sided, upright, pointed at the top, and several times taller than broad.

Off Road Vehicle (ORV) – Any motorized vehicle capable of, or designed for, travel on or immediately over land, water or other natural terrain, excluding: (1) any nonamphibious registered motorboat, (2) emergency vehicles, (3) vehicles in official use.

Ore – A mineral deposit that can be mined at a profit under existing economic conditions.

Paleontology – The study of the life of past geological ages as seen in fossil plants and animals.

Permit/Lease (Grazing) – Under Section 3 of the Taylor Grazing Act, a permit is a document authorizing use of public lands within grazing districts for the purpose of grazing livestock. Under Section 15 of the Taylor Grazing Act, a lease is a document authorizing livestock grazing use of public lands outside grazing districts.

Prehistoric – Locales, structures, and objects used by native peoples from as much as 13,000 years ago to the 1850s.

Public Lands – Any land and interest in land owned by the United States Government and administered by the Secretary of the Interior through the Bureau of Land Management. May include public domain or acquired lands in any combination.

Quitclaim Deed – A document which transfers to the grantee all rights, title and interest held by the grantor.

Reclamation – The process of converting mined land to its former or other productive uses.

Recreation and Public Purposes Act (R&PP Act) – This act authorizes the Secretary of the Interior to lease or convey public lands for recreational and public purposes under specified conditions to states or their political subdivisions, and to nonprofit corporations and associations.

Reserved Federal Mineral Estate – Property on which the Federal Government has retained ownership of the minerals (and the right to remove the minerals) while transferring the surface estate into private or other ownership (see Split Estate).

Resource Management Plan (RMP) – A Bureau of Land Management land use plan that establishes coordinated land use allocations for all resources and support activities for a specific land area within a BLM district. It also establishes objectives and constraints for each resource and support activity and provides data for consideration in program planning. An RMP is predominantly issue driven. (This process has replaced the Management Framework Plan process).

Right-of-Way – A permit or an easement which authorizes the use of public lands for certain specified purposes, commonly for pipelines, roads, telephone lines, electric lines, reservoirs, etc.; also the lands covered by such and easement or permit.

Scenic Easement – The right to control the use of a particular piece of private land to protect the natural qualities of the property or its surroundings. (Scenic easements contain restrictions on the future use and development of the land. Stipulations may vary depending on what is necessary for the protection of the area.)

Sensitive Species – Plant or animal species not yet officially listed as threatened or endangered, but which are undergoing a status review. Sensitive species may also be proposed for listing according to a Federal Register notice published by the Secretary of the Interior, or the Secretary of Commerce, or according to comparable state documents published by state officials.

Shaft – A vertical or inclined opening giving access to an underground mine.

Short-Term – A time period of 10 years or less.

Significant – As used in NEPA, requires consideration of both context and intensity. Context means that the significance of an action must be analyzed in several scenarios such as society as a whole, and the affected region, interests, and locality. Intensity refers to the severity of impacts (40 CFR 1508.27).

Soil – The unconsolidated mineral material on the immediate surface of the earth that serves as a natural medium for the growth of land plants.

Soil Productivity – Capacity of a soil, in its normal environment, for producing specified plants under specified management systems.

Special Management Areas – See Areas of Critical Environmental Concern (ACEC).

Split Estate – An area of land where the surface is privately owned and the subsurface mineral resources are Federally owned.

Stamp Mill – A machine in which rock is crushed by reciprocating pestles (stamps).

State Comprehenisve Outdoor Recreation Plan (SCORP) – A comprehensive outdoor recreation plan developed by the Oregon State Parks and Recreation Department. The SCORP assesses recreational resources and demand by region throughout the state. The plan also outlines expected roles of agencies at the federal, state, and local levels in providing outdoor recreation opportunities.

State Historic Preservation Officer (SHPO) – The official within each state authorized by the state at the request of the Secretary of the Interior to act as liaison for implementing the National Historic Preservation Act of 1966.

Statutes – Laws or acts passed by the United States Congress or a state legislature.

Threatened Species – A plant or animal species the Secretary of Interior has determined to be endangered in the foreseeable future throughout all or most of its range.

Undertaking – Any project, activity, or program under the direct or indirect jurisdiction of a Federal agency (or licensed or assisted by a Federal agency) that can result in changes in the character or use of historic properties, if any such historic properties are located in the area of potential effects.

Valid Existing Rights – Rights which exist prior to a management action and take precedence over the action. In mining, valid existing rights result from the discovery of a valuable mineral deposit.

Viewshed – A total landscape seen or potentially seen from specific points on a logical part of a travel route or water body.

Visual Intrusion – A feature (land, vegetation, structure) that is generally considered out of context with the characteristic landscape.

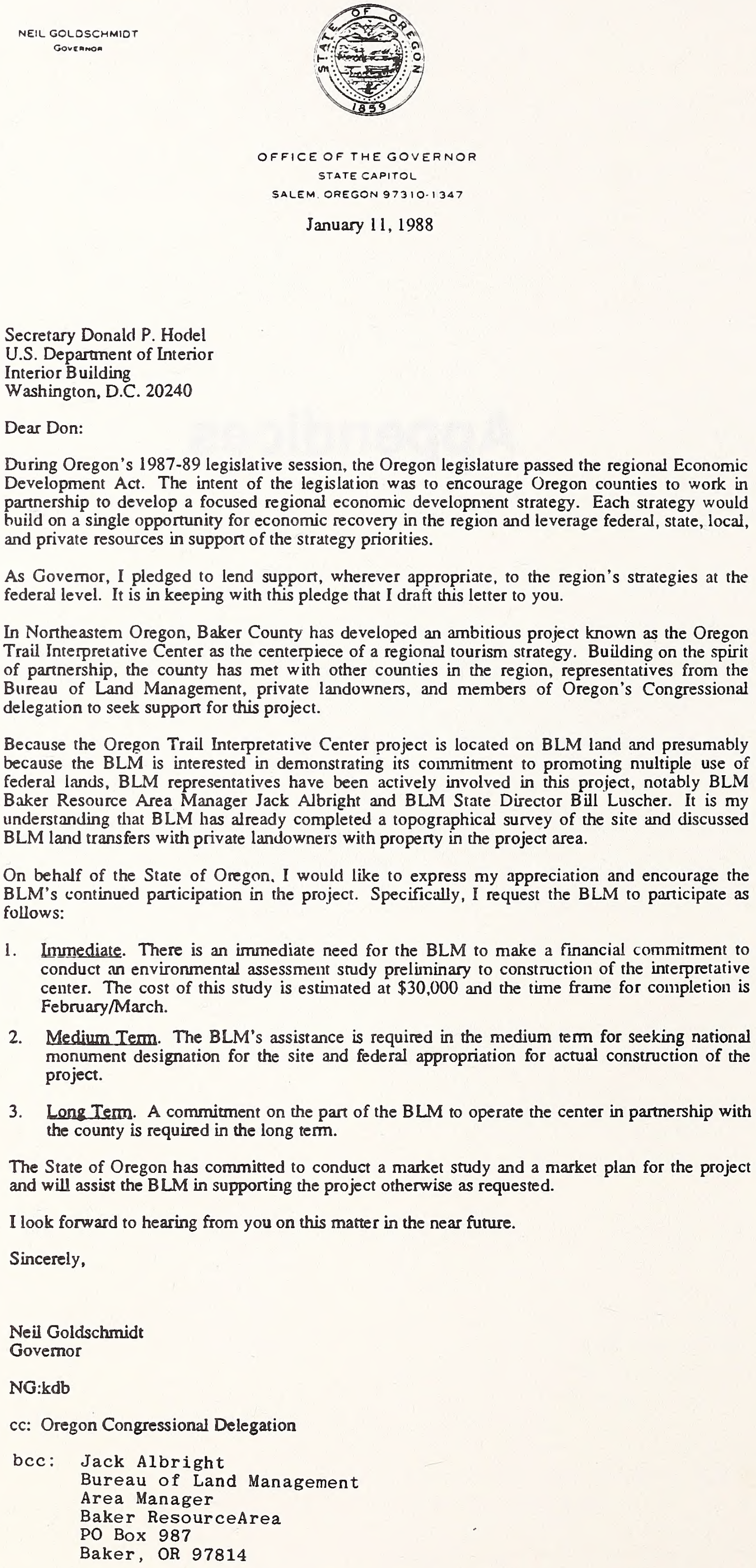
Visual Resource Management (VRM) – The planning, design, and implementing of management objectives to provide visual impacts within acceptable limits for all resource management activities.

Visual Resource Management Class (VRM Class)– The degree of visual change acceptable within the existing characteristic landscape. An area's classification is based upon the physical and sociological characteristics of any given homogeneous area and serves as a management objective. Class I (preservation) provides the highest level of protection for scenic values, and Class IV the lowest level.

Withdrawals – Actions which restrict the use of public lands and segregate the lands from the operation of some or all mineral exploration and development under the mineral laws.

Appendices

Appendix A Documents Requesting EA



NEIL GOLDSCHMIDT
GOVERNOR

OFFICE OF THE GOVERNOR
STATE CAPITOL
SALEM, OREGON 97310-1347

January 11, 1988

Secretary Donald P. Hodel
U.S. Department of Interior
Interior Building
Washington, D.C. 20240

Dear Don:

During Oregon's 1987-89 legislative session, the Oregon legislature passed the regional Economic Development Act. The intent of the legislation was to encourage Oregon counties to work in partnership to develop a focused regional economic development strategy. Each strategy would build on a single opportunity for economic recovery in the region and leverage federal, state, local, and private resources in support of the strategy priorities.

As Governor, I pledged to lend support, wherever appropriate, to the region's strategies at the federal level. It is in keeping with this pledge that I draft this letter to you.

In Northeastern Oregon, Baker County has developed an ambitious project known as the Oregon Trail Interpretative Center as the centerpiece of a regional tourism strategy. Building on the spirit of partnership, the county has met with other counties in the region, representatives from the Bureau of Land Management, private landowners, and members of Oregon's Congressional delegation to seek support for this project.

Because the Oregon Trail Interpretative Center project is located on BLM land and presumably because the BLM is interested in demonstrating its commitment to promoting multiple use of federal lands, BLM representatives have been actively involved in this project, notably BLM Baker Resource Area Manager Jack Albright and BLM State Director Bill Luscher. It is my understanding that BLM has already completed a topographical survey of the site and discussed BLM land transfers with private landowners with property in the project area.

On behalf of the State of Oregon, I would like to express my appreciation and encourage the BLM's continued participation in the project. Specifically, I request the BLM to participate as follows:

1. Immediate. There is an immediate need for the BLM to make a financial commitment to conduct an environmental assessment study preliminary to construction of the interpretative center. The cost of this study is estimated at $30,000 and the time frame for completion is February/March.
2. Medium Term. The BLM's assistance is required in the medium term for seeking national monument designation for the site and federal appropriation for actual construction of the project.
3. Long Term. A commitment on the part of the BLM to operate the center in partnership with the county is required in the long term.

The State of Oregon has committed to conduct a market study and a market plan for the project and will assist the BLM in supporting the project otherwise as requested.

I look forward to hearing from you on this matter in the near future.

Sincerely,

Neil Goldschmidt
Governor

NG:kdb

cc: Oregon Congressional Delegation

bcc: Jack Albright
Bureau of Land Management
Area Manager
Baker ResourceArea
PO Box 987
Baker, OR 97814

IN REPLY REFER TO.

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240

8353 (340)

[illegible] 15

Honorable Neil Goldschmidt
Governor of Oregon
Salem, Oregon 97310-1347

Dear Governor Goldschmidt:

This is in further response to your letter of January 11, 1988, addressed to Secretary of the Interior Donald Paul Hodel, regarding the proposed Oregon Trail Interpretative Center in Baker County, Oregon. Secretary Hodel asked us to respond to your request that the Bureau of Land Management (BLM) participate in this project. As you indicated, this is indeed an ambitious project which could possibly provide Baker County and the State of Oregon with an economic boost through increased tourism.

We too understand that our BLM field managers have worked closely with Baker County in the initial development of this project proposal. A significant portion of the Oregon National Historic Trail, including readily identifiable trail ruts, is located on BLM administered public lands in several States. We too are anxious that this national historic treasure be protected and made available for public enjoyment.

You requested "immediate" assistance in the development of an environmental assessment. We will be happy to assist Baker County on this project providing they are willing to share in the cost. The arrangements for this sharing should be worked out at the local level along with the timing for accomplishing this task. We recognize the need to get this done at the earliest time possible and will do everything we can to expedite it.

We too feel that it is important that we proceed in an orderly manner in the development of the visitor center complex. An environmental analysis and preliminary design work need to be completed so that a reasonably accurate estimate can be made concerning the scope and cost of the project. At this point in time, local, State, and BLM officials need to firm up a strategy for development and funding of the project. Your letter is a good starting point for this effort. This will provide the basis for future local, State, and Federal actions.

We are anxious to continue to work with you and other interested parties on this most worthwhile project and sincerely hope that we can form a viable partnership to see this project through to completion.

Sincerely,

/s/ Robert F. Burford

Director

cc: SD Oregon:Pouch Mail
CA:MIB,Rm. 5558
ES(3):MIB,Rm.6221
CL:MIB,Rm.6246
SOL:MIB,Rm.6352
PBA:MIB,Rm.5119
OPA:MIB,Rm.7013
LM(2):MIB,Rm.6628
341 RF:MIB,Rm.3360
341 DPrice:gf:3-04-88:9353:0286x:ES-36657

ROBERT F. (BOB) SMITH
20 DISTRICT, OREGON

COMMITTEE
AGRICULTURE
SUBCOMMITTEES
FORESTS, FAMILY FARMS, AND ENERGY
LIVESTOCK, DAIRY, AND POULTRY
WHEAT, SOYBEANS, AND FEED GRAINS

SELECT COMMITTEE ON HUNGER

Congress of the United States
House of Representatives
Washington, DC 20515

WASHINGTON OFFICE
118 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
202-225-6730

DISTRICT OFFICES
TOLL FREE 1-800-533-3303

1150 CRATER LAKE AVENUE
SUITE K
MEDFORD, OR 97504
503-776-4646

771 PONDEROSA VILLAGE
BURNS, OR 97720

April 12, 1988

Mr. Earl E. Gjelde
Chief Operating Officer
Department of the Interior
1800 C Street N.W.
Washington, D.C. 20240

Dear Earl:

Thank you for taking time from your schedule to meet with citizens from Baker regarding the Oregon Trail Interpretative Center.

As Gary, Chuck and Brian mentioned, there is an immediate need for the BLM to make a financial commitment to conduct an environmental assessment study preliminary to construction of the Interpretative Center.

We were all extremely pleased to learn that the BLM will make that financial commitment on the condition that the community pay $5,000 towards that environmental assessment.

The local community leaders have just confirmed that they do have $5,000 available as the local share for the environmental assessment.

I look forward to working with you and the people of Baker, Malheur, Grant, Union and Wallowa Counties on this important project.

Thank you for your assistance.

Very truly yours,

Bob

ROBERT F. (BOB) SMITH
Member of Congress

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

RECEIVED
JUL 05 1988
VALE DISTRICT - BLM

JUN 07 1988

Honorable Robert F. (Bob) Smith
House of Representatives
Washington D.C. 20515

Dear Mr. Smith:

This is in response to your letter of April 12, 1988, regarding funding of an environmental assessment for the proposed Oregon Trail Interpretative Center in Baker County, Oregon. You asked for confirmation on the commitment to provide funding for the environmental assessment for this project.

The Bureau of Land Management (BLM) will provide $25,000 in funding for the project as agreed at our April 11, 1988, meeting. We are pleased to hear that Baker County can provide the other $5,000 needed to complete the environmental assessment. Since this is unprogrammed work, it may be late summer or early fall before schedules can be adjusted and actual work can begin on this project. The community and our local office have been working very well together, and they will work out the schedule and other details.

We are looking forward to working with you and the people of Oregon on this important project.

Sincerely,

Earl

EARL E. GJELDE

8300

July 21, 1988

Honorable Judge Ralph Ward
Baker County Court
Baker County Courthouse
Baker, OR 97814

Dear Judge Ward:

This letter is to inform the Baker County Commissioners of the Bureau of Land Management's commitment of $27,000 for the preparation of the environmental assessment (EA) for the National Historic Oregon Trail Interpretive Center at Flagstaff Hill. Attached are copies of the letters from Assistant Secretary Gjelde and BLM Director Burford that confirm this commitment. Although this is $2,000 more than identified in Mr. Gjelde's correspondence for the Bureau's commitment, we still need the $5,000 from Baker County. The additional funding is necessary for travel expenses we did not anticipate.

The EA team and I have established a time schedule for completion of the environmental assessment. Scoping of issues was completed on June 22. The EA team resumed meeting on July 19 with the goal of presenting a draft EA for public review by August 31. The scheduled completion date of the final EA is October 31, 1988.

I am pleased with the cooperation between the BLM and the County on this project and look forward to the timely completion of the Interpretive Center in 1991.

Sincerely yours,

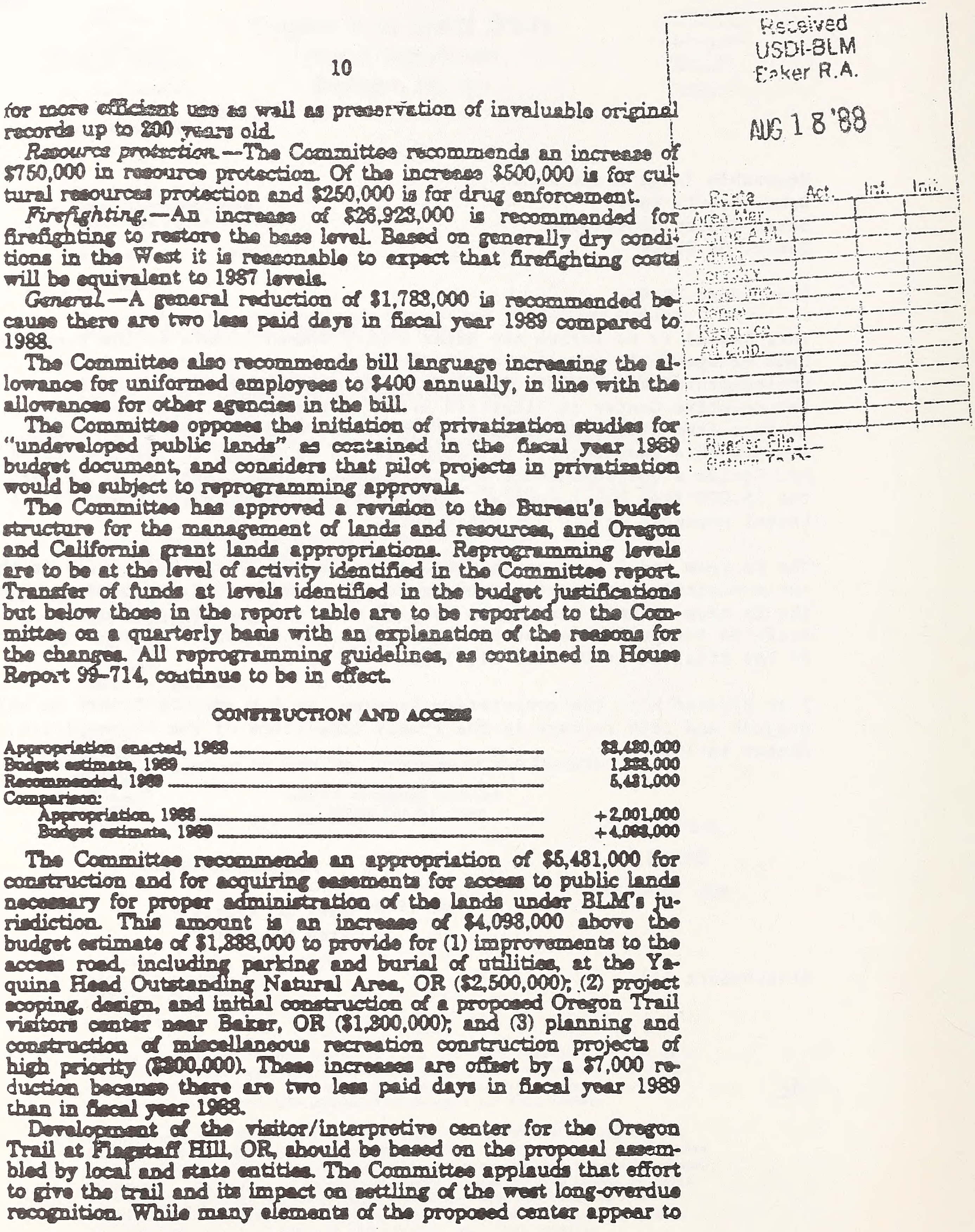
/s/ JACK D. ALBRIGHT

Jack D. Albright
Area Manager

Attachments (2)

dz

Appendix B Preliminary Appropriation for Project



Received
USDI-BLM
Baker R.A.
AUG 18 '88
Route Act. Inf. Init.
Area Mgr.
Acting A.M.
Admin.
Forestry
Resource
All Emp.
Reader File

for more efficient use as well as preservation of invaluable original records up to 200 years old.

Resource protection.—The Committee recommends an increase of $750,000 in resource protection. Of the increase $500,000 is for cultural resources protection and $250,000 is for drug enforcement.

Firefighting.—An increase of $26,923,000 is recommended for firefighting to restore the base level. Based on generally dry conditions in the West it is reasonable to expect that firefighting costs will be equivalent to 1987 levels.

General.—A general reduction of $1,783,000 is recommended because there are two less paid days in fiscal year 1989 compared to 1988.

The Committee also recommends bill language increasing the allowance for uniformed employees to $400 annually, in line with the allowances for other agencies in the bill.

The Committee opposes the initiation of privatization studies for "undeveloped public lands" as contained in the fiscal year 1989 budget document, and considers that pilot projects in privatization would be subject to reprogramming approvals.

The Committee has approved a revision to the Bureau's budget structure for the management of lands and resources, and Oregon and California grant lands appropriations. Reprogramming levels are to be at the level of activity identified in the Committee report. Transfer of funds at levels identified in the budget justifications but below those in the report table are to be reported to the Committee on a quarterly basis with an explanation of the reasons for the changes. All reprogramming guidelines, as contained in House Report 99-714, continue to be in effect.

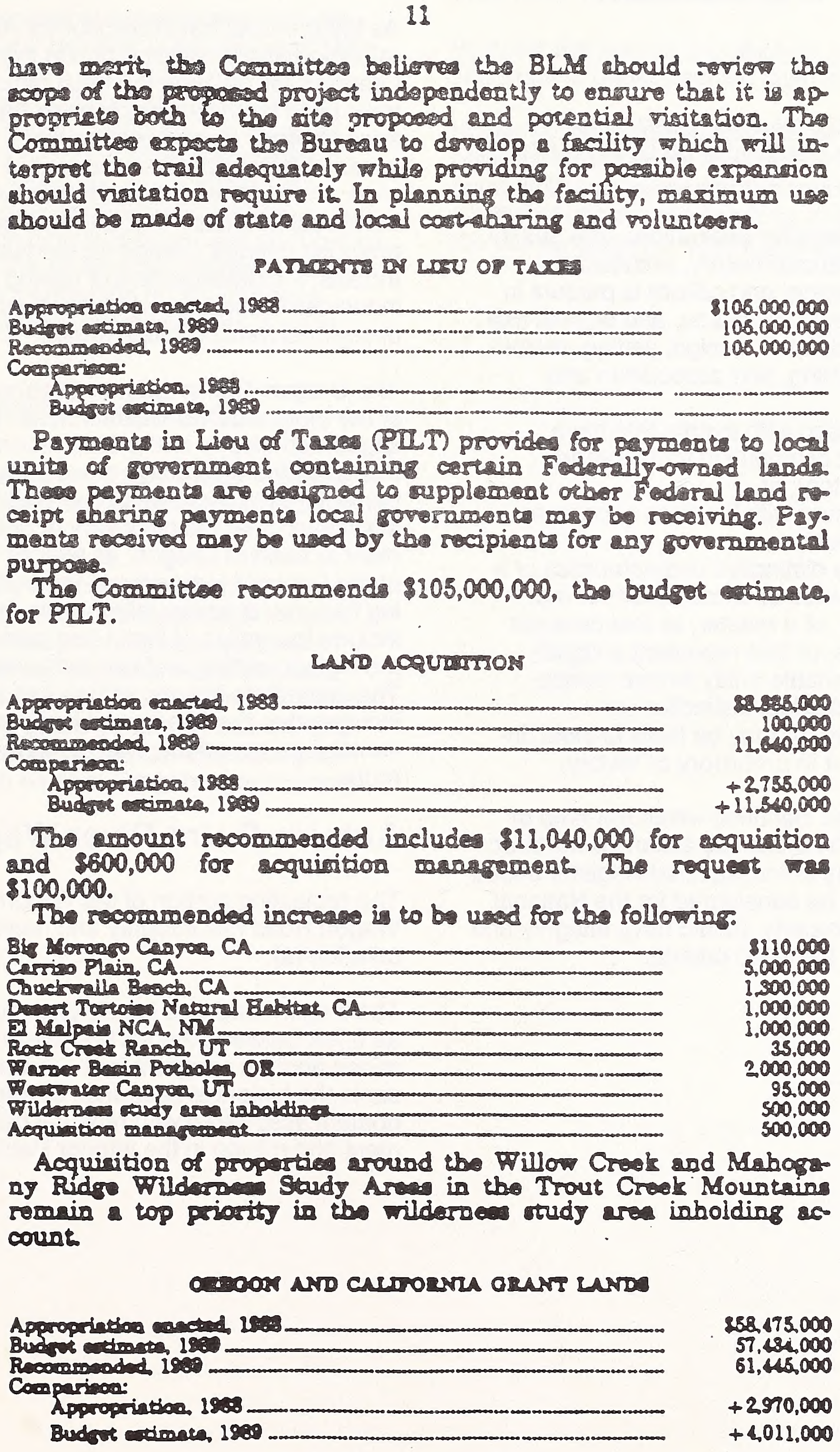
CONSTRUCTION AND ACCESS

Appropriation enacted, 1988	$3,480,000
Budget estimate, 1989	1,388,000
Recommended, 1989	5,481,000
Comparison:	
Appropriation, 1988	+2,001,000
Budget estimate, 1989	+4,093,000

The Committee recommends an appropriation of $5,481,000 for construction and for acquiring easements for access to public lands necessary for proper administration of the lands under BLM's jurisdiction. This amount is an increase of $4,093,000 above the budget estimate of $1,388,000 to provide for (1) improvements to the access road, including parking and burial of utilities, at the Yaquina Head Outstanding Natural Area, OR ($2,500,000); (2) project scoping, design, and initial construction of a proposed Oregon Trail visitors center near Baker, OR ($1,300,000); and (3) planning and construction of miscellaneous recreation construction projects of high priority ($300,000). These increases are offset by a $7,000 reduction because there are two less paid days in fiscal year 1989 than in fiscal year 1988.

Development of the visitor/interpretive center for the Oregon Trail at Flagstaff Hill, OR, should be based on the proposal assembled by local and state entities. The Committee applauds that effort to give the trail and its impact on settling of the west long-overdue recognition. While many elements of the proposed center appear to

]



have merit, the Committee believes the BLM should review the scope of the proposed project independently to ensure that it is appropriate both to the site proposed and potential visitation. The Committee expects the Bureau to develop a facility which will interpret the trail adequately while providing for possible expansion should visitation require it. In planning the facility, maximum use should be made of state and local cost-sharing and volunteers.

PAYMENTS IN LIEU OF TAXES

Appropriation enacted, 1988	$105,000,000
Budget estimate, 1989	105,000,000
Recommended, 1989	105,000,000
Comparison:	
Appropriation, 1988	
Budget estimate, 1989	

Payments in Lieu of Taxes (PILT) provides for payments to local units of government containing certain Federally-owned lands. These payments are designed to supplement other Federal land receipt sharing payments local governments may be receiving. Payments received may be used by the recipients for any governmental purpose.

The Committee recommends $105,000,000, the budget estimate, for PILT.

LAND ACQUISITION

Appropriation enacted, 1988	$8,885,000
Budget estimate, 1989	100,000
Recommended, 1989	11,640,000
Comparison:	
Appropriation, 1988	+2,755,000
Budget estimate, 1989	+11,540,000

The amount recommended includes $11,040,000 for acquisition and $600,000 for acquisition management. The request was $100,000.

The recommended increase is to be used for the following:

Big Morongo Canyon, CA	$110,000
Carrizo Plain, CA	5,000,000
Chuckwalla Bench, CA	1,300,000
Desert Tortoise Natural Habitat, CA	1,000,000
El Malpais NCA, NM	1,000,000
Rock Creek Ranch, UT	35,000
Warner Basin Potholes, OR	2,000,000
Westwater Canyon, UT	95,000
Wilderness study area inholdings	500,000
Acquisition management	500,000

Acquisition of properties around the Willow Creek and Mahogany Ridge Wilderness Study Areas in the Trout Creek Mountains remain a top priority in the wilderness study area inholding account.

OREGON AND CALIFORNIA GRANT LANDS

Appropriation enacted, 1988	$58,475,000
Budget estimate, 1989	57,434,000
Recommended, 1989	61,445,000
Comparison:	
Appropriation, 1988	+2,970,000
Budget estimate, 1989	+4,011,000

Appendix C National Register of Historic Places: Criteria for Evaluation

Criteria

The criteria applied to evaluate properties for the National Register are identified in 36 CFR Part 60.4, as cited here:

National Register criteria for evaluation: The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

> a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
> b) that are associated with the lives of persons significant in our past; or
> c) that embody the distinctive characteristics of a type, period or method of construction; or that represent the work of a master; or that possess high artistic values; or that represent a significant and distinguishable entity whose components may lack individual distinction; or
> d) that have yielded, or may be likely to yield, information important in prehistory or history.

The cultural resources identified within the area of potential effects for the proposed actions have been evaluated for eligibility to the National Register based on these criteria. To be considered for the National Register, a historic property should have integrity and meet one or more of the listed criteria.

Oregon Trail

The Oregon Trail possesses integrity and meets evaluation criteria (a) and (b).

As the principal travel corridor for America's westward migration and expansion during the 19th century, the Oregon Trail became the most famous of western trails used by Indians, explorers, fur trappers, missionaries, emigrants, and gold seekers. The Oregon Trail is associated with the settlement of the Pacific Northwest; the treaty with Great Britain which defined the northwest boundary of the United States; treaties and profound cultural change for the Native American Indians; the development of mining and ranching as industries of the intermontane West; and the evolution of regional transportation routes.

The Oregon Trail in eastern Oregon is representative of the emigrants' transition from an intermontane sagebrush steppe to the Blue Mountain river valleys that heralded the valleys of western Oregon. In particular, this segment of the Trail is historically associated with the discovery of gold and early settlement in eastern Oregon, as well as the development of the first gold lode mine in the state. The contributing features of seven miles of the Oregon Trail route include four miles of intact and pristine wagon ruts, the historic setting and two monuments to the Trail. The immediate historic setting has integrity and incorporates the foreground landscape as seen from vantage points on the Trail along the seven-mile route.

Auburn-Burnt River Wagon Road

The remaining portion of the Auburn-Burnt River Wagon Road has integrity and meets evaluation criterion (a).

The wagon road was locally and regionally important as a link between the earliest eastern Oregon gold mines and the emigrant trail. The wagon road represents the historical sequence of transportation development associated with regional patterns of settlement and mining in the interior Pacific Northwest.

Flagstaff Mine

The remains of the historic Flagstaff Mine have integrity and meet evaluation criteria (a) and (d).

Intact historic archaeological deposits and features, buildings and structural remains at the Flagstaff Mine are characteristic of those associated with the gold lode mining boom that occurred at the turn of the century in eastern Oregon. Although the Flagstaff Mine never achieved historical importance in local gold production, nevertheless, the features aptly represent the technology of gold lode extraction, and the physical evidence typical of boom and bust cycles in mining industry. The archaeological deposits have the potential to yield information on the interface between domestic and industrial activities at early lode mines.

Eagle Valley Railroad Grade

The remaining portion of the Eagle Valley Railroad grade has integrity but does not meet other evaluation criteria.

The association of the railroad grade with national, regional or locally significant transportation investment and railroad development is largely indirect. The Eagle Valley railroad proposal never played a significant role in the history of local economic development. The railroad grade principally has interpretive value as a failed investment/development proposal connected with eastern Oregon's gold mining boom.

Stone Feature (35 BA 105)

The stacked stone feature has integrity, but based upon information presently available, does not fully meet other evaluation criteria.

By itself, the feature is unlikely to provide information important to understanding cultural history.

However, the stone feature merits preservation for its potential to contribute to a comparative study. The comparative study and further research may yield additional information resulting in reevaluation of 35 BA 105 for potential eligibility to the National Register.

Appendix D Withdrawal Review Criteria: Summary of BLM Manual Sec. 2355

Section 2355.05 Definitions

Secretary: Secretary of the Interior.

Director: Director, Bureau of Land Management.

Withdrawal: Removal, or withholding of public lands by statute, or Secretarial order, from operation of some or all of the public land laws ("surface," mining, and/or mineral leasing laws).

Public Land Order: An order creating, continuing (extending), modifying, or revoking a withdrawal, and signed by an appointed, Senate - confirmed official of the Office of the Secretary.

Section 2355.12 Elimination of Unnecessary Withdrawals

Showing of Need. The Bureau ensures that proposals for new withdrawals and perpetuation of existing withdrawals and classifications are supported by a definitive need and analysis of alternatives.

Maximum Multiple Use. Withdrawal modifications and extensions must provide for maximum possible multiple uses, with particular emphasis upon mineral exploration and development.

Life Terms. Modification or extension of withdrawals must provide for a specific life term, e.g., 20 years. No indefinite or open-ended withdrawals may be created except by legislation.

Alternatives. Before the BLM advocates a withdrawal, alternatives such as rights-of-way (FLPMA, Section 507) and interagency agreement (FLPMA, Section 307(b)(6) must be exhaustively explored. For additional guidance on managing use occupancy and development of public lands, see FLPMA, Section 302(b).

Closure to Mining Laws. A proposal to close or continue closure of public lands to operation of the mining laws must convincingly demonstrate that the surface management regulations of the BLM (43 CFR 3809 or 3814) or Forest Service (36 CFR 252) are inadequate to fully protect Federal property and investments, prevent unnecessary or undue resource degradation, protect fragile or endangered resource values, provide for national security requirements, or protect public health and human safety.

Section 2355.3 Withdrawal Review

.31 Basic Criteria. Key questions which must be addressed in reviewing a withdrawal are: for what purpose were the lands withdrawn; is that purpose still being served; and are the lands suitable for return to the public domain (e.g., not "property" or contaminated)? If the answer to the second question is no, quick revocation, or at least modification, of the withdrawal is in order. Perpetuation (retention) of a withdrawal or classification necessitates a compelling showing of need. A BLM or other-agency manager recommending that lands not be opened to multiple use, particularly mining and mineral leasing, must convince the BLM Director, Secretary, and watchful segments of the public, that there is no reasonable alternative to continued withdrawal or classification. Occurrence of special or unique flora, fauna, wilderness, or cultural resources on a tract, or a need to segregate to protect or enhance some emergent or current program, do not justify delay in revoking or modifying a withdrawal made for some other purpose.

Added Information. A thorough assessment of: possible alternatives to withdrawal such as lease or permit, right-of-way, interagency agreement, interagency land transfer, or other ownership (i.e., state, county, or community); alternative protective mechanisms or management tools, such as the Antiquities Act, conformance with recommendations of an applicable land-use plan as provided by BLM's planning regulations, 43 CFR 1601, the surface management regulations as they pertain to State laws (43 CFR 3809, 3814), segregations through certain realty actions, the Endangered Species Act, county and city zoning, etc.; and a cogent explanation as to why none of the above provide the degree of program support or protection required.

Section 2355 Appendix 1 Withdrawal Processing Considerations

1. A principal difficulty with withdrawal and withdrawal modification (continuation) proposals, is one of inadequate "homework" and the development of compelling showings of need. Reports sometimes do not identify the central issues, or fail to treat such issues logically and crisply. Statements may be made that are unsupported, or tend to be self-serving or condescending (e.g., "existing uses provide adequate justification for withdrawal"). There are apparent shortcomings in differentiating between: (a) the minimal essential documentation requirements of a revocation action, which is essentially ministerial; and, (b) the thoroughness of staff work required for a withdrawal continuation which involves Secretarial decision-making within the context of widespread focus upon, and criticism of, public land "lock-ups."...

2. Some case files for proposals to close or continue closure of lands to operation of the mining laws, exhibit one or more of the following: inaccurate or cursory understanding of the provisions of the surface management regulations, 43 CFR 3809; lack of District and State Office mineral specialist involvement and surname; and statements that the 3809 regulations are inadequate, without cogent findings to back up such conclusions....

9. Inadequate or no consideration of possible alternatives to withdrawal, e.g., lease or permit, right-of-way, cooperative management agreement, interagency transfer, and other ownership (State, county, or community)....

10. Failure to address in detail whether a proposed withdrawal encompasses minimum essential acreages only. For example, why is 40 acres (or 10) required for a resource area headquarters site? ...

11. No evidence of public support, e.g., formal expressions of concurrence from State, county, or local officials, and/or citizen groups....

13. Inadequate treatment of existing and proposed Federal investments, particularly where sizable dollar amounts are involved, which may afford the strongest rationales for withdrawal. Files frequently do not provide sufficient detail, e.g., kinds of facilities and costs. Pictures often are lacking. Specific development plans (facilities, dollars, and time tables) may not be included....

14. Lack of awareness or assessment of protective mechanisms (other than withdrawal) available to land managers. These include, for example, the Antiquities Act, conformity with recommendations of an applicable land-use plan as provided by BLM's Planning Regulations (43 CFR 1601), the surface management regulations as they pertain to State laws (43 CFR 3809.3-1), segregations provided by certain realty actions, the Endangered Species Act, county and city zoning, etc....

Appendix E Interpretive Themes

Examples of some preferred interpretive themes are listed below. This list is not a comprehensive catalog of possible interpretive options. It does, however, identify major areas of historic, geographic, cultural and sociological importance. It is envisioned that displays and "living history" presentations would change over time to address all major theme areas.

Potential interpretive themes fall within at least four broad categories as follows.

1) The Route of the Oregon Trail

- Native Americans' prehistoric trade and travel routes
- Defining the route: early exploration and the impact of the fur trade
- Missionaries and the first emigrants
- The great emigrations: 1840s-1850s
- Importance of the Trail as a transportation corridor after emigration

2) Emigrant Lifeways on the Oregon Trail

- Goals and expectations
- Daily life on the road and in encampments
- Work and leisure
- Social organization and structure
- Male/female interests, roles, social networks
- Children's experiences, activities
- Logistics of travel: materials and supplies for the journey, equipment maintenance, management of stock and supplies
- Health care: medicine and therapy, diseases, accidents, sanitation
- Interactions among emigrant groups: cooperation and competition
- Occupational backgrounds applied to the emigrant experience
- Roles of guides, suppliers, traders, entrepreneurs
- Contacts with Native Americans (Umatilla, Cayuse, Walla Walla, Nez Perce, Paiute): cooperation and conflict
- Comparison to 19th century American culture and lifestyles
- Personal documents as records of the journey
- Emigrant guidebooks as information sources

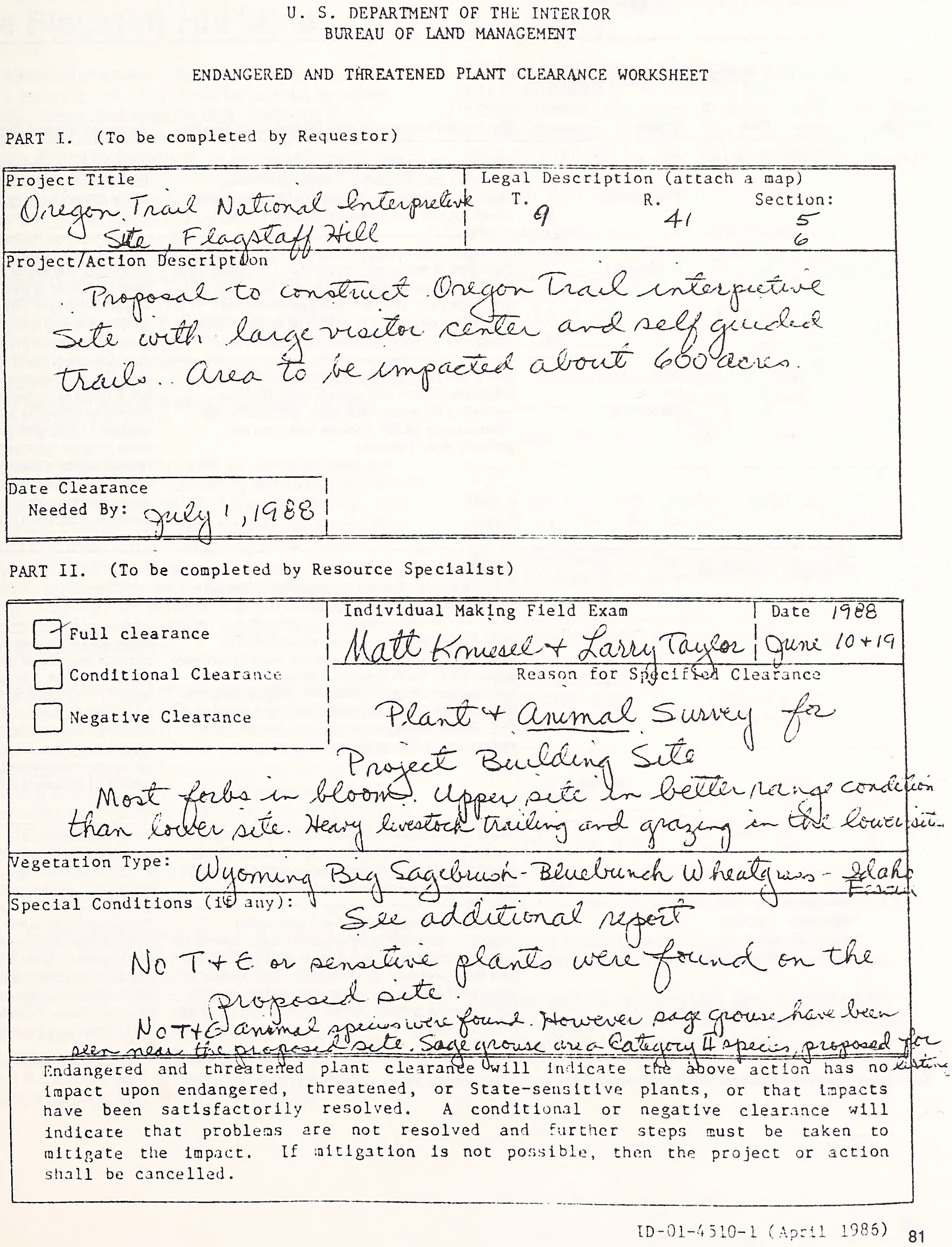
3) Natural environment

- Scientific contributions by early naturalists
- Three representative landscapes along the Trail (sagebrush-bunchgrass hills and plains; river valley grasslands and waterways; fir and pine forests of the Blue Mountains)
- Natural obstacles and noteworthy land features
- Topography/geology as it affected the Trail route and the emigrant experience
- Native plants and animals observed and used along the Trail
- The emigrant natural resource triad: water, grass, fuel

4. Influence on Northwest and National History

- U.S. acquisition of the Oregon Territory
- Settlement and gold mining in the Pacific Northwest interior
- Effect of emigration on Native American cultures.

Appendix F Threatened and Endangered Species Clearance



U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

ENDANGERED AND THREATENED PLANT CLEARANCE WORKSHEET

PART I. (To be completed by Requestor)

Project Title Oregon Trail National Interpretive Site, Flagstaff Hill	Legal Description (attach a map) T. 9 R. 41 Section: 5 6

Project/Action Description
Proposal to construct Oregon Trail interpretive site with large visitor center and self guided trails. Area to be impacted about 600 acres.

Date Clearance Needed By: July 1, 1988

PART II. (To be completed by Resource Specialist)

☑ Full clearance
☐ Conditional Clearance
☐ Negative Clearance

Individual Making Field Exam: Matt Kniesel + Larry Taylor

Date 1988 June 10 + 19

Reason for Specified Clearance
Plant + Animal Survey for Project Building Site
Most forbs in bloom. Upper site in better range condition than lower site. Heavy livestock trailing and grazing in the lower site.

Vegetation Type: Wyoming Big Sagebrush - Bluebunch Wheatgrass - Idaho Fescue

Special Conditions (if any): See additional report

No T + E or sensitive plants were found on the proposed site.

No T+E animal species were found. However sage grouse have been seen near the proposed site. Sage grouse are a Category II species, proposed for listing

Endangered and threatened plant clearance will indicate the above action has no impact upon endangered, threatened, or State-sensitive plants, or that impacts have been satisfactorily resolved. A conditional or negative clearance will indicate that problems are not resolved and further steps must be taken to mitigate the impact. If mitigation is not possible, then the project or action shall be cancelled.

ID-01-4510-1 (April 1986)

Appendix G Summary of Geology and Mineralization in Northeastern Oregon[1]

Generalized Geologic Time Chart						
Rock Group	Era	Period	Epoch	MM yrs. before present	Geologic Processees and Mineralizing Events	Types of Mineral Deposits
Cenozoic	Cenozoic	Quaternary	Recent to Pleistocene	2	Modern-day erosion, volcanic activity, lake formation and glaciation in high mountains. Deposition of lake clays and silts, alluvium, wind blown silt, volcanic ash and cinders.	Cinders, sand and gravel, common clay, gold and silver placer deposits.
		Tertiary	Pliocene to Miocene	24	Volcanism, hot springs, faulting, uplift and erosion. Extrusion of enormous volumes of Columbia River basalts (Miocene age) interbedded with lake and bog sediments, alluvium and pyroclastics in nonmarine environment. Uplift of Northern Blue Mountains and formation of Troy Basin.	Diatomite and peat deposited in lakes or bogs. Peat and other organic material changed into lignite, coal and natural gas in some areas. Large lignite deposits are present in the Troy Basin. Volcanic ash, tuff & lavas have been altered to bentonite and zeolites. Older gold and silver placers, geothermal related mercury-gold deposits, petrified wood, agate, semiprecious gems, perlite and obsidian occur.
			Oligocene to Paleocene	66	Volcanism and erosion resulting in Eocene to Oligocene Clarno and John Day Formations consisting of pyroclastics, lava, and sediments. Paleocene to Middle Eocene rocks are rare, probably due to erosion.	
Pre-Tertiary	Mesozoic	Cretaceous		144	Mountain building and erosion. Rock units missing due to erosion. Several thousand feet of relief developed on the older rocks.	
		Jurassic		208	Plate tectonics, faulting, and metamorphism. Addition of oceanic and island arc crust to continental margin of North America forming what is now northeastern Oregon followed by emplacement of large granitic intrusives and associated mineralization. Rocks deposited in this area include clastic sedimentary rocks and minor limestone.	Major gold and silver vein deposits associated with granitic intrusives, also copper, molybdenum, tungsten and antimony deposits. High grade, precious and base metal tactite deposits formed by contact of intrusives with limestone.
		Triassic		245	Island arc volcanism and sedimentation. Rocks formed include greenstones and metasediments mixed with shallow marine shales and limestones. Predominantly a marine environment.	Volcanogenic metal deposits associated with fumarolic submarine volcanism include copper, gold, silver, lead and zinc. Also present are some precious and base metal vein deposits. Chromite and asbestos deposits are associated with ultramafic intrusive rocks. Commercial grade limestone deposits.
	Paleozoic	Permian to Devonian(?)		400(?)	Formation of oceanic crust and submarine volcanism followed by development of an island arc or arcs. Rocks formed include argillite, chert, tuff, lava flows and pods of limestone. These rocks have been intruded by mafic to ultramafic magma forming albite granite, diorite, gabbro and ultramafic intrusive bodies.	

---

[1] Draft Baker Resource Management Plan/Environmental Impact Statement, March 1986, Appendix C, page 96.

Appendix H Mineral Development Scenario for the Flagstaff Hill Mine

The attached scenario is based on the assumption that a potential ore body could be worked by either surface mining and cyanide heap leaching, or by underground mining associated with agitation cyanide milling. Actual extraction might involve elements of both or use of a different milling technology. Open pit mining and heap leaching would permit recovery of a larger low grade (about 0.1 oz gold/ton) deposit assumed to be on the order of 6 million tons (100' wide x 500' deep x 1,500' long), while higher extractive costs of underground recovery would limit mining to a smaller amount of higher grade ore (about 0.3 oz gold/ton) on the order of 400,000 tons (5' wide x 1,000' deep x 1,000' long). These reserve values were chosen to be generally consistent with mineral deposit models described in our July 26, 1988 report on the "Mineral Potential of the Flagstaff Hill Area, Baker County, Oregon."

Economic projections for open pit development are presented as a range bounded by estimates based on the Bureau of Mines IC 9070, "Gold Availability", and the Mining Cost Service 1988 cost model for a 2,000 ton per day mine with 4:1 stripping ratio. Back calculation of direct employment, based on these sources, agrees fairly well with available information reviewed by the staff for other western U.S. open pit/ cyanide leach operations with greater than 5 million tons of reported reserves.

This mineral development scenario was prepared strictly for the benefit of BLM land use planning to assess possible employment associated with operation of a mine at Flagstaff Hill and environmental assessment. This scenario should not be used for any other purpose. It is based on possible future discoveries and not on the presence of known deposits. The scenario does not include employment during the development and start up phases of the projected mine(s). It envisions two mine development possibilities or combinations:

1. Open pit-mineable deposit of about 6,000,000 tons (100'x1,500'x500') with a grade of about 0.1 ounce gold per ton to be recovered by heap leach techniques, and

2. Underground-mineable deposit of about 400,000 tons (5' x 1,000' x 1,000') with a grade of about 0.3 ounce gold per ton to be recovered by agitation cyanide leach milling techniques.

In addition, it is important to point out that the chances of any mining operation occurring at the site are in the range of 1 in 5 to 1 in 50, based on our professional judgment and experience in observing the success of similar properties.

Average hourly wage of the labor is taken at $13.89. The cost of labor to the company including fringe benefits is $150.00/day per employee-shift. Mine life is assumed to be 10 years. The mill is operated 300 days per year and the mine 250 days per year.

1. Open pit and Heap Leach Operations

Mine production	2400 tons/day
Mill production	2000 tons/day
Heap leach recovery	75% of contained gold
Stripping ratio (tons of waste:tons of ore)	4.0:1.0

	Employees			Total Yearly Payroll	Other Yearly Costs	Capital Costs
	Mine	Mill	Total	($)	($)	($)
Mine A	133	29	162	5,800,000	6,600,000	25,000,000
Mine B	64	31	95	3,400,000	—	33,000,000

Mine A from Mining Cost Service Cost Model (1988).
Mine B Primarily from data in US Bureau of Mines IC 9070 (1986).

2. Underground Mine and Agitation Leach Mill

Mine production (shrinkage stope)	160 tons/day
Mill production	133 tons/day

	Employees			Total Yearly Payroll	Other Yearly Costs	Capital Costs
	Mine	Mill	Total	($)	($)	($)
Mine A	62	9	71	2,600,000	800,000	12,000,000

Mine A from Mining Cost Service Cost Model (1988) (projected from 500 m T/D and 1000 m T/D cost models).

Selected data for Western U.S. open pit and underground mines is given in Table 1 for general comparison with projected mine development.

Table 1. Employment for Western U.S. Gold-Silver Mines

Mine	Reserves (1,000 tons)	Gold (Ounces/ton)	Mill (Tons/day)	Mill Type	Employees
Open Pit Mines:					
Paradise Peak	12,000	0.083	4,000	Heap	200
Mercur	15,000	0.100	3,000	CIL	200
Candelaria (Ag)	N/A	—	10,000E	Heap	160
Alligator Ridge	5,000	0.120	2,500E	Heap	140
Delamar (Au,Ag)	11,000	0.020	2,200	Ag Leach	135
Round Mountain	42,000	0.043	14,400	Heap	129
Pinson	5,853	0.071	1,500	Cyanide	83
Ortiz	7,100	0.053	2,833E	Heap	75
Borealis	2,500	0.090	2,500	Heap	60
Underground Mines:					
Homestake	17,518	0.220	—	Cyanide	—
Cannon	5,200	0.271	1,500	Float	200

E – Estimated by BLM.
CIL — Carbon In Leach
Source: E&MJ, June 1983.

Assuming a work schedule of 5 days per week with 10 days paid leave and is $36,000 per worker for both the open pit and underground scenarios. Various projects have used a variety of multiplier factors to estimate the secondary effect of creating new jobs in the local area. Table 2 indicates the range of facting expenses are likely to be spent in the local community. It is assumed that 75% of actual non-payroll expenses will be spent in the community. The major economic impacts of the mineral development scenario are summarized below:

Table 2. Secondary Job Multiplier Factors

Project	Year	Project Jobs	Secondary Jobs	Factor	Agency
Eagle-Pitcher Diatomite M/M, OR	1985	30	90	3.0	DOI, BLM
Breitenbush Geothermal, OR	1976	—	—	2.04	DOA, FS
Cannon Gold Mine, WA	1984	161	322	2.0	WA State
Sherwood Uranium M/M, WA (Constr)	1976	80	80	1.0	DOI, BIA
Creston Coal Power Plant, WA	1980	250	175	0.7	DOI, BIA
FMC's Paradise Peak, NV	1984	200	52–78	0.6	DOI, BLM
John Henry No.1 Coal Mine, WA	1985	60-90	—	.25–.50	DOI, OSM

The expected economic impacts to the local community include direct and indirect employment, non-wage/salary purchases by the mine, and increases in the assessed property evaluation. The capital cost of construction can be expected to approximate the assessed evaluation of the mine and mill for property tax purposes, but does not include a value for inplace ore reserves. Most of the non-payroll operating expenses are likely to be spent in the local community. It is assumed that 75% of actual non-payroll expenses will be spent in the community. The major economic impacts of the mineral development scenario are summarized below:

Open Pit Mine	
Employment, direct	95-162 job
Payroll, annual	$ 3.4-5.8 million
Purchases in local community, annual	$ 5.0 million (assumes 75% of total)
Mine/Mill Property Value	$ 25-33 million (not including ore reserves)
Employment, secondary	95-324 job (assumes factor of 1.0 to 2.0)
Underground Mine	
Employment, direct	71 job
Payroll, annual	$ 2.6 million
Purchases in local community, annual	$ 0.8 million (assumes 75% of total)
Mine/Mill Property Value	$ 12 million (not including ore reserves)
Employment, secondary	71-142 job (assumes factor of 1.0 to 2.0)

While the scenario assumes a 10 year life, it is not an uncommon experience in similar mining districts for additional discoveries to significantly extend mine life.

BLM LIBRARY
RS 150A BLDG. 50
DENVER FEDERAL CENTER
P.O. BOX 25047
DENVER, CO 80225

F 882 .F5 B343 1988 c.2
U. S. Bureau of Land
Management. Baker Resource
Proposed National Historic
Oregon Trail Interpretive

OFFICE
DATE RETURNED
(Continued on reverse)

BLM LIBRARY
RS 150A BLDG. 50
DENVER FEDERAL CENTER
P.O. BOX 25047
DENVER, CO 80225

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Baker Resource Area
Box 987
Baker, OR 97814

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

FIRST CLASS MAIL
POSTAGE & FEES PAID
U.S. DEPARTMENT OF THE INTERIOR

PERMIT NO. G-76